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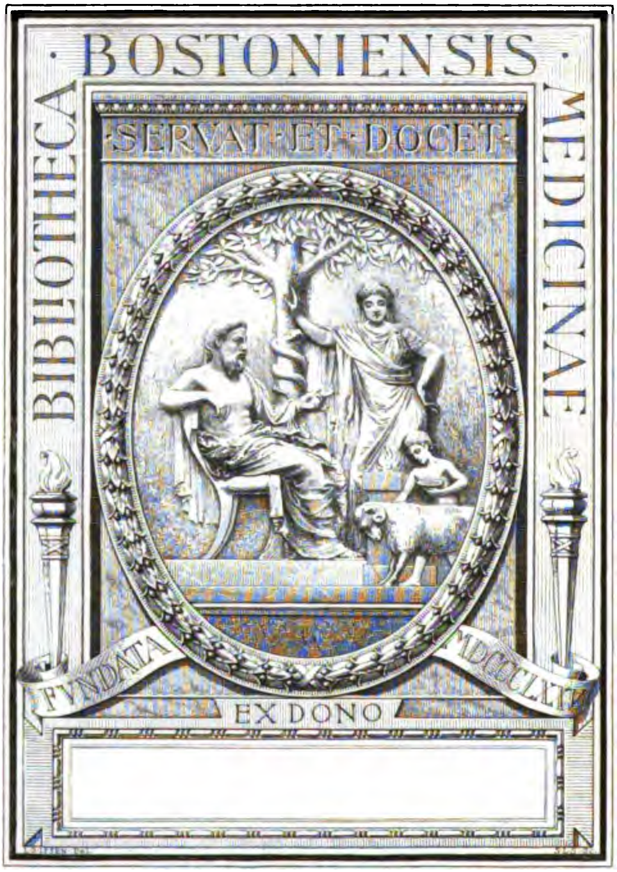
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LIST OF CONTRIBUTORS.

VOLUME LIV.

Albl, Dr. M. A., Cleveland, O.
Treatment of Diphtheria, 681.

Applegate, Dr. J. C., Philadelphia, Pa.
The Therapeutic Value of Ergot in Labor, 26.

Aronson, Dr. E. A., New York, N. Y.
Case of Bilateral Cervical Ribs, 141.

Ashburn, Dr. P. M., Ft. Missoula, Mont.
Piroplasmosis Hominis (?)—Spotted Fever of Montana, 481.
A Suggestion as to the Treatment of the "Spotted Fever" of Montana, 579.

Ayres, Dr. S. C., Cincinnati.
Traumatic Ptosis of Left Upper Lid, 171.

Baldwin, Dr. J. F., Columbus, O.
Two Cases of Cæsarean Section, 682.

Barnett, Dr. Charles E., Fort Wayne, Ind.
Pathologic Changes Resulting from Prostatic Enlargement, 222.

Barnhill, Dr. James U., Columbus, O.
Cæsarean Section, 317.

Batten, Dr. John M., Downingtown, Pa.
Prognosis, 431.

Beeson, Dr. Charles T., Roswell, N. M.
Climatic Advantages, 228.

Bettmann, Dr. Henry Wald, Cincinnati.
A Criticism of Recent Surgical Literature on Diseases of the Stomach, 59.
Specimen of Dilated Stomach, 137.
Brief History of the Medical Libraries of Cincinnati, 572.

Bodine, Dr. J. A., New York, N. Y.
Result from Operation for Cleft Palate, 140.

Bowers, Dr. L. G., Richmond, Ind.
The Use of a Normal Saline Solution in Surgery, 465.

Bland, Dr. P. B., Philadelphia, Pa.
Chorio-Epithelioma Malignum, 108.

Block, Dr. Jacob, Kansas City, Mo.
Indifference to Diagnosis One of the Dangers of Modern Surgery, 11.

Bracken, Dr. H. M., Minneapolis, Minn.
Infection of Transportation, 648.

Brose, Dr. L. D., Evansville, Ind.
The Eye, Ear and Throat Sequelæ of Diphtheria, 584.

Bullock, Dr. W. O., Lexington, Ky.
A Case of Bilateral Tic Douloureux Treated by Removal of the Right Gasserian Ganglion and Excision of the Left Inferior Dental Nerve, 226.

Campbell, Dr. Elizabeth, Cincinnati.
Clinical History of Typhoid Fever, 606.

Carothers, Dr. Robert, Cincinnati.
An Infant Born With No Stomach, 409.
Traumatic Tetanus, 451.

Chamberlin, Dr. C. S., Cincinnati.
Echinacea Angustifolia, 279.

Coleman, Dr. James E., Canton, Ill.
The Value of the X-Ray to the General Practitioner, 197.

Connor, Dr. Earle, New York, N. Y.
Inflammation of the Optic Nerve Due to Alcohol and Tobacco Poisoning, 143.

Crothers, Dr. T. D., Hartford, Conn.
Public Care and Treatment of Inebriety, 284.

Culbertson, Dr. L. R., Zanesville, O.
Argyrol in Acute Otitis Media, 105.
Report of Two Mastoid Cases; Death from Cerebral Complications, 467.

Dandridge, Dr. N. P., Cincinnati.
On the Treatment of Cancer, 85.
The High School Examination Committee, 480.
Surgical Treatment of Perforation in Typhoid, 611.

Devine, Dr. Edward T., New York, N. Y.
A Working Programme for Associations for the Prevention of Tuberculosis—National, State and Local, 655.

Dougherty, Dr. D. S., New York, N. Y.
Demonstration of Specimen of Compression of Larynx Due to Sarcoma, 142.

Downes, Dr. A. J., Philadelphia, Pa.
Exhibition of Specimens, 112.

Dreyfoos, Dr. Max, Cincinnati.
A Case of Fracture of the Base of the Skull in a Pregnant Woman, with Recovery and Without the Occurrence of Abortion, 162.

Earp, Dr. Samuel E., Indianapolis, Ind.
A Case of Tuberculosis with Some Unusual Points of Interest, 19.

Eichberg, Dr. Joseph, Cincinnati.
The Medical Aspects of Appendicitis, 599.

Elliott, Dr. George R., New York, N. Y.
Tuberculosis of Knee Joint Following Gonorrheal Arthritis, 172.

Fackler, Dr. G. A., Cincinnati.
Cerebro-Spinal Meningitis, 619.

Faller, Dr. Albert, Cincinnati.
The Distoma Hematobium, 166.

Firestone, Dr. J. H., Freeport, Ill.
  Two Etiological Factors in Pelvic Diseases of Women, their Prevalence and Prevention, 288.
Freiberg, Dr. Albert H., Cincinnati.
  The Radiogram in Orthopedic Diagnosis, 70.
  Patient with Tuberculosis of Elbow Joint, 558.
Gibney, Dr. V., New York, N. Y.
  A Case for Diagnosis, 46.
  Tumor from the Shaft of the Femur, 171.
Goldspohn, Dr. A., Chicago, Ill.
  Bi-Inguinal Celiotomy, 695.
Graham, Dr. Henry G., Chicago, Ill.
  How Sanitation May be Made Effective, 153.
Greenley, Dr. T. B., Meadow Lawn, Ky.
  Is the Practice of Producing Abortion Common Among Medical Men? 40.
Greiwe, Dr. J. E., Cincinnati.
  Pathology of Typhoid Fever, 604.
  Exhibition of Specimens, 686.
Griess, Dr. Walter R., Cincinnati.
  A Case of Subdural Hemorrhage, 297.
  Two Cases of Appendicitis, 530.
Haines, Dr. W. D., Cincinnati.
  Fracture of Patella Treated by the Suture Method, 136.
  Prostatectomy, 170.
  Gastrojejunostomy, 268.
Hall, Dr. Joseph A., Cincinnati.
  Specimen of Uterine Fibroid — Typhoid After Operation, 267.
Hall, Dr. Rufus B , Cincinnati.
  Early Diagnosis of Cancer of the Body of the Uterus, 345.
  Case Reports, 688.
Harsha, Dr. William M., Chicago, Ill.
  The Prevention of Appendicitis, 185.
Harlan, Dr. Earl, Cincinnati.
  Urethrorrhea, 528.
Haughton, Dr. R. E., Richmond, Ind.
  Bacteriology and Immunity, 335.
Heidingsfeld, Dr. M. L., Cincinnati.
  Myoma Cutis, 144.
  Anomalies of the Hair, 414.
  Some Dermatologic X-Ray Abuses, 434.
  Dermatologic Malingering, 494.
  Hydrocystic Adenoma of the Skin, 560.
  Case of Epithelioma, 685.
Hibbs, Dr. ——, New York, N. Y.
  Foreign Body in the Knee Joint, 44.
Hirst, Dr. B. C., Philadelphia, Pa.
  Case of Post-Typhoid Ovarian Abscess, 110.
  A Case of Suppurative Cholecystitis with a Gall-Stone and Intraperitoneal Abscess, 111.
  Exhibition of Specimens, 111.
Holmes, Dr. Christian R., Cincinnati.
  The Use of Salubrin in Diseases of the Respiratory Passages, 426.
Iglauer, Dr. Samuel, Cincinnati.
  An Attempt to Relieve Atrophic Rhinitis by a New Operation, 144.
  The Nitrous Oxide-Ether Series by Means of a New Inhaler, 307.
  A Case of Acute Mastoiditis, Complicated by Facial Paralysis and Osteo-Phlebitic Pyemia, 559.
Jaeger, Dr. ——, New York, N. Y.
  Arthritis Deformans, 46.
Johston, Dr. J. Ambrose, Cincinnati.
  Chronic Oöphoritis, 137.
  Specimen of Fibroma of the Rectum, 533.
Judson, Dr. A B., New York, N. Y.
  Snapping Hip, 45.
Keiper, Dr. George F., Lafayette, Ind.
  Otitic Brain Abscess—Report of Two Cases—Observations Concerning the Disease, 563.
Kellogg, Dr. J. H., Battle Creek, Mich.
  The Treatment of So-Called Incurable Chronic Disorders by the Physiologic Method, 520.
Krouse, Dr. Louis J., Cincinnati.
  Contribution to the Pathology of External Piles, 703.
Lamb, Dr. Frederick, Cincinnati.
  Penetrating Wounds of the Eyeball, with Presentation of Specimens, 369.
Landis, Dr. John H., Cincinnati.
  Typhoid Fever Treatment, 608.
Langdon, Dr. F. W., Cincinnati.
  Pain in the Back—a Clinical Lecture, 121.
Lawrence, Dr. Florus F., Columbus, O.
  Ectopic Pregnancy, 455.
Levison, Dr. Louis A., Toledo, O.
  Medical Aspects of Gastro-Duodenal Ulcers, 261.
Lewis, Dr. Bransford, St. Louis, Mo.
  Report on Operative Work in the Ureter Through the Author's Catheterizing and Operative Cystoscopes, 245.
Lyle, Dr. Benjamin F., Cincinnati.
  Out-Door Treatment of Pulmonary Tuberculosis, 645.
  National Association for the Study and Prevention of Tuberculosis, 667.
Markley, Dr. A. J., Cincinnati.
  Anomalies of the Hair, 414.
  Some Dermatologic X-Ray Abuses, 434.
Markley, Dr. S. A., Cincinnati.
  Herpes Zoster, 170.
  Case for Diagnosis—Syphilis, 170.
Marxmiller, Dr. H. G., Cincinnati.
  Cholelithiasis with Perforation of Gall-Bladder, 137.
  Chronic Myeloid Leukemia, 269.
McAuliffe, Dr. G. B., New York, N.Y.
  New Adenoid Forceps, 139.
  Result of Schwartze Stacke Operation for Mastoiditis, 141.
  Ulcers of the Larynx for Diagnosis, 141.
McCall, Dr. H. B., Kansas City, Mo.
  The Etiology of Ectopic Gestation, 458.
McCollum, Dr. C. W., Erlanger, Ky.
  The Treatment of Dysentery, 342,
McKee, Dr. E. S., Cincinnati.
  The Ethics of Gonorrhea in the Female, 74.
Metzenbaum, Dr. Myron, Cleveland, O.
  Radium—Its Value in Medicine, 555.
Millikin, Dr. Mark, Hamilton, O.
  The American Anti-Tuberculosis League, 506.
Moore, Dr. Hugh M., Oxford, O.
  The Need of a Physician in Charge of the Hygiene of Our Schools, 200.

Myers, Dr. ——, New York, N. Y.
Painful Os Calcis, 43.

Nathan, Dr. P. W., New York, N. Y.
Pott's Disease with Some Unusual Features, 173.

Norbury, Dr. Frank Parsons, Jacksonville, Ill.
A Study of the Mental Disorders of Adolescence, 1.

Oliver, Dr. John Chadwick, Cincinnati.
Typhoid Fever and Appendicitis, 124.
A Study of Tuberculosis from a Surgical Standpoint, 421.

Pantzer, Dr. Hugo O., Indianapolis, Ind.
Report of a Case of Popliteal Aneurism, Treated by Arteriorrhaphy, 544.

Paquin, Dr. Paul, Asheville, N. C.
Consumption and Its Borderland—Public and Professional Concern, 217.

Pennell, Dr. William W., Mt. Vernon, O.
Typhoid Fever in Children, 630.

Pfaff, Dr. O. G., Indianapolis, Ind.
Mesenteric Cysts, 707.

Pfingst, Dr. Adolph O., Louisville, Ky.
Malignant Growths of the Eye, 397.

Porter, Dr. W. D., Cincinnati.
A Case of Puerperal Sepsis in which Serum Treatment Seemed Beneficial, 405.

Quinlan, Dr. F. J., New York, N. Y.
Report of an Operation for Mastoiditis, 142.

Ransohoff, Dr. Joseph, Cincinnati.
Renal Calculus Removed from the Ureter, 558.
Thyroidectomy in the Treatment of Exophthalmic Goitre, 673.

Rattermann, Dr. Frank L., Cincinnati.
Is Man an Omnivorous Animal? 181.
Ptosis of Abdominal Viscera, 537.

Ravogli, Dr. A., Cincinnati.
Considerations on Inherited Syphilis, with Special Reference to Paternal Inheritance, 593.

Reed, Dr. Charles A. L., Cincinnati.
Recent Illustrative Experiences in Abdominal Surgery, 379.

Reich, Dr. A., New York, N. Y.
Patient Demonstrating the Use of Theocin in the Treatment of Nephritis, 139.

Reynolds, Dr. Dudley S., Louisville, Ky.
Foreign Bodies in the Cornea, 131.

Ricketts, Dr. B. Merrill, Cincinnati.
Cholecystotomy and Nephrectomy for Gall-Stones and Pyonephrosis (Tubercular), 139.
Specimens of Tubercular Kidneys, 532.
Double Ureter, 532.
Pyonephrosis of Kidneys, 532.
Hematoma of the Ovary, 687.

Ries, Dr. Emil, Chicago, Ill.
The Transverse Fascial Incision for Operations in the Pelvis, 363.

Roberts, Dr. George W., New York, N. Y.
Cancer of the Rectum Treated by Sigmoido-Proctectomy, 374.

Robinson, Dr. J. Wirt, Chicago, Ill.
The Question of Wound Infection, with Special Regard to those Due to Catgut, 401.

Rowe, Dr. James W., Cincinnati.
Systematic Examination of Sick Children, 93.
The Findings in a Case of Aortic Aneurism, 413.

Sattler, Dr. Robert, Cincinnati.
Cases of Hemophilia, 269.
The Electro-Magnet in Ophthalmic Surgery, 365.
Report of 445 Cases of Nitrous Oxide-Ether Administrations in Further Recommendation of the Advantages for Short and Long General Anesthesia, 403.
Patient Operated Upon for Extensive Epithelial Neoplasm of the Right Orbit, 531.

Schachner, Dr. August, Louisville, Ky.
The Radical Cure of Inguinal Hernia, 322.

Schroeder, Dr. J. Henry, Cincinnati.
Digestive Disturbances—a Clinical Study, 548.

Shields, Dr. Edw. H., Cincinnati.
Macular Atrophy of the Skin, 129.
Syphilis of the Eye, 134.
Iodine Oil, 632.

Shoemaker, Dr. T. J., Morganfield, Ky.
Cataplasms: Their Use and Abuse, 207.

Sinclair, Dr. D. A., New York, N. Y.
Gangrene Following the Use of Stovaine as a Local Anesthetic, 143.

Souther, Dr. Chas. T., Cincinnati.
Bloodless Placenta Previa Centralis, 408.
Retained Placenta, 408.

Stark, Dr. Sigmar, Cincinnati.
Bi-Inguinal Celiotomy, 626.

Stevenson, Dr. Mark D., Akron, O.
The Tear-Passages and Their Diseases, 15.

Stricker, Dr. Louis, Cincinnati.
The Ocular Manifestations of Cerebral Syphilis, 33.

Tate, Dr. Magnus A., Cincinnati.
Ectopic Gestation—Diagnosis and Cases, 158.
President's Address, 347.
Puerperal Convulsions—Cases and Treatment, 393.
Ovarian Cyst, 531.

Tate, Dr. Ralph, Cincinnati.
Absence of the Meatus, 295.
Diabetic Coma, 296.
Abscess from the Appendix, 296.
Twins, 297.

Thompson, Dr. John A., Cincinnati.
Supraorbital Neuralgia, 266.
Tooth-Plate in the Esophagus, 530.

Thrasher, Dr. Wade, Cincinnati.
A Case of Innocently Acquired Syphilis in a Boy Aged Thirteen, 684.

Vail, Dr. Derrick T., Cincinnati.
The X-Ray as an Aid in Diagnosis in Some Ocular Traumatisms, with Report of Four Cases, 293.

Vaught, Dr. Clarence, Richmond, Ky.
Vital Values, 678.

Vinnedge, Dr. W. W., Lafayette, Ind.
Death Through Misadventure, 526.

WATHEN, Dr. WM. H., Louisville, Ky.
  Gastroenterostomy, 291.

WEBSTER, Dr. J. P., Chicago, Ill.
  Tenotomy of the Tendo-Achilles in Partial Amputations of the Foot, also in Oblique, Compound and Comminuted Fractures of the Tibia and Fibula, 66.

WHITACRE, Dr. HORACE J., Cincinnati.
  Appendicitis, 100.
  Strangulated Littre and Femoral Hernia, 409.
  The After-Treatment in Abdominal Operation, 509.

WHITMAN, Dr. ——, New York, N. Y.
  Congenital Torticollis, 43.
  Congenital Dislocation of the Hips, 43.

WITHROW, Dr. JOHN M., Cincinnati.
  Double Dermoid of the Ovary, 407.
  Case of Splenic Anemia—Banti's Disease(?)—Splenic Enlargement for Five Years; Hemorrhages for One Year, 439.

WOLFSTEIN, Dr. D. I., Cincinnati.
  Value of a Medical Library to the Community, 573.

WRIGHT, Dr. C. M., Cincinnati.
  Physiology, 167.

WYMAN, Dr. Hal C., Detroit, Mich.
  Radical Cure of Hernia, 553.

ZINKE, Dr. E. GUSTAV, Cincinnati.
  Duehrssen's Vaginal Cæsarean Section and Deep Cervical Incisions, 192.

INDEX TO VOLUME LIV.

JANUARY-JUNE, 1905.

- ABDOMINAL operation, the after-treatment of, 500.
  - sections, the after-treatment of with eserine salicylate, 415.
  - surgery, recent illustrative experiences in, 379.
- Abortion, is the practice of producing common among medical men? 40.
- Academy of Medicine, the, 589.
- Accident with the antrum trocar, an, 119.
- Acid intoxication in surgical conditions, 305.
- Acquired venereal syphilis in a six year-old boy, 450.
- Actinomycosis, 697.
- Acute hallucinatory insanity of traumatic origin, 147.
  - otitis in children, 359.
- Adams County Medical Society, 694.
- Adeno-carcinoma of the nose, 47.
- Adenoid forceps, new, 139.
- Albuminuric retinitis in children, 613.
- Alcoholism, note on social causes of, 150.
- Amblyopia, some unique cases of, 618.
- American Anti-Tuberculosis League, 506.
  - Medical Association, a bill to incorporate the, 118.
  - Medical Society for the Study of Inebriety and Alcohol, 694.
  - Proctologic Society, 446, 711.
- Anemia, etiology of pernicious, 446.
- Anesthesia with dreams and nightmare, 53.
- "Annals of Surgery," the, 26.
- Anomalies of the hair, 414.
- Aortic aneurism, the findings in a case of, 413.
- Appendicitis, 100.
  - the prevention of, 185.
  - perilous calms of, 241.
  - two cases of, 530.
  - the medical aspects of, 599.
- Appendix, abscess from the, 296.
- Argyrol, an experience with staining the skin with, 618.
- Army medical corps examinations, 273.
- Arthritis deformans, 44.
- Aseptic and antiseptic precautions prior to, during and after cutting operations on the eyeball, 331.
- Association of contrasted obsessions with states of melancholia, 51.
- Asthma, the nasal treatment of, 114.
- Atrophic rhinitis, acetozone in, 644.
  - an attempt to relieve by a new operation, 144.
- Aural tinnitus due to the action of the tubo-palatal muscles, 332.

- BACTERIOLOGY and immunity, 335.
- Bi-inguinal celiotomy, 626, 695.
- Bilateral cervical ribs, case of, 141.
- Binocular fusion, development of the faculty of, 83.
- Bloodless placenta previa centralis, 408.
- Book Reviews:
  - Surgery of the Heart and Lungs, Ricketts, 701.
- Bourbon County Medical Society, 353.
- Breech-pin in ophthalmology, the, 617.
  - in the orbit three years, 700.

- CÆSAREAN section, 317.
  - two cases of, 682.
- Cancer, on the treatment of, 85.
  - the treatment of, 86.
  - of the body of the uterus, early diagnosis of, 345.
  - of the rectum treated by sigmoido-proctectomy, 374.
  - and tuberculosis, the association of, 89.
- Case for diagnosis—syphilis, 170.
  - reports, 688.
- Cataract extraction, treatment of infection after, 616.
- Cerebral functions, histological studies on the localization of, 242.
- Cerebro-spinal meningitis, 390, 619, 631.
  - cryoscopy of cerebro-spinal fluid in epidemic, 216.
  - diphtheria antitoxin in, 327.
  - in Cincinnati, 588.
  - reports of cases of, 642.
- Change, a, 116.
- Chemical examination of the urine, 476.
- Chicago Board of Health report, 479.
- Chicago's health record, 115.
- Child-birth, the significance of fever in, 32.
- Chloroform anesthesia, death occurring during, 152.
- Chorio-epithelioma malignum, 108.
- Chorion-epithelioma, 31.
- Cholecystitis with a gall-stone and intraperitoneal abscess, a case of suppurative, 111.
- Cholecystotomy and nephrectomy for gall-stones and pyonephrosis (tubercular), 139.
- Cholelithiasis with perforation of gall-bladder, 137.
- Chronic oöphoritis, 137.
  - purulent otitis media with cholesteatoma, 358.
- Cincinnati Hospital annual report, 303.
  - Medical Library Association, 112, 146, 214.
  - Society for Medical Research, 114, 560.

Circumcision and prevention of syphilis, 450.
Cleft palate, result from operation for, 140.
Climatic advantages, 228.
Clinical nomenclature, 663.
Coffee amblyopia, 617.
Collodium dressing for intranasal surgery, 362.
"Combined treatment" in diseases of the eye, especially in that of the uveal tract, 330.
Complete removal of lymphatics in cases of malignant disease of the tongue, 329.
Congenital dislocation of the hips, 43.
  misplacement of the hip, the present status of the question of, 211.
  occlusion of the lachrymal canal and acute contagious inflammations of the conjunctiva in children, 91.
  torticollis, 43.
Conjunctivitis, the treatment of purulent, 92.
  the bacillus pneumonia as a cause of, 349.
  petrificans, 700.
Consumption and its borderland — public and professional concern, 217. 233.
Consumptives, registration of, 640.
Corneal reflex in anesthesia, the, 302.
Cutaneous absorption of iodine and potassium iodide salves, 450.

DEATH through misadventure, 526.
Delaware County Medical Society, 694.
Dementia precox, 54
Dermatologic malingering, 494.
Diabetic coma, 296.
Diagnosis, a case for, 44.
Digestive disturbances—a clinical study, 548.
  disorders, the treatment of, 180.
Dilation of os, 278.
Diphtheria, treatment of, 681.
  the eye, ear and throat sequelæ of, 584.
Double ureter, 532.
  dermoid of the ovary, 407.
Duehrssen's vaginal Cæsarean section and deep cervical incisions, 192, 208.
Dysentery, the treatment of, 342.
  treatment of chronic by irrigation of the colon through the vermiform appendix or an opening into the cecum, 592.
Dystoma hematobium, the, 166.

ECHINACEA angustifolia, 279.
Eclampsia, lumbar puncture in, 278.
  with report of cases, 278.
Ectopic gestation—diagnosis and cases, 158.
  the etiology of, 458.
  pregnancy, 455.
Effects of total transverse lesion of the spinal cord, 391.
Electro-magnet in ophthalmic surgery, the, 365, 385.
Elephantiasis of the upper lid, 618.
Entameba coli and entameba dysenteriæ, 639.
Epilepsy, the therapeutic indications in, 419.
Epithelioma, case of, 685.
Ergot, the value of in labor, 26.
Erysipelas, antistreptococcus serum in, 301.
Excision of the elbow joint for traumatic and arthritic ankylosis, 118.
Exhibition of specimens, 111, 112.
Exophthalmic goitre, thyroidectomy in the treatment of, 673.
External cervical esophagotomy for foreign bodies, 449.
Extirpation of neoplasms in the tonsils, 449.

FACIAL nerve, the surgical anatomy of the, 359.
Fatal results of operations upon the nose and throat, 358.
Fibroma of the mastoid, auricle and auditory canal, 333.
  of the rectum, specimen of, 533.
Foreign body in the ear for twenty-seven years, 20.
  in the knee-joint, 44.
  bodies in the cornea, 131.
  in the esophagus of children, 449.
Fracture of the base of the skull in a pregnant woman, with recovery and without the occurrenee of abortion, a case of, 162.
  of patella treated by suture method, 136.
  of the base of the skull, 718.

GALL-BLADDER, infections of the, 151.
Gangrene following the use of stovaine as a local anesthetic, 143.
Gastro-duodenal ulcers, medical aspects of, 262.
Gastroenterostomy, 291.
Gastrojejunostomy, 268.
General paralysis and crime, 148.
  and therapeutic notes, 664.
Glaucoma simplex, the question of iridectomy in, 700.
Gonorrhea in the female, the ethics of, 74, 78, 507.
  gonosan in, 454.
Gonorrheal arthritis, discussion on, 173.
  ophthalmia with involvement of the anterior ethmoid cells, 617.
  arthritis, 698.
Grafting of skin flaps for contractures due to cicatrices, 614.
Greeting to the class of 1905, 640.
Gunshot wound of the orbit; removal of bullet with conservation of globe, 699.

HALLUCINATION, the psychology of, 149.
Heart and kidney lesions, reciprocal relations of, 216.
Hematoma of the ovary, 687.
Hemophilia, cases of, 269.
Hemorrhage, the treatment of accidental, 30.
  a case of subdural, 297.
Hernia. the radical cure of inguinal, 322.
  strangulated Littre and femoral, 409.
  radical cure of, 553.
Herpes zoster, 170.
Heterophoria, facts versus fancies concerning, 618.
High school examination committee, the, 480.
Hospital deficits, 22.
How sanitation may be made effective, 153.
  to obtain a certificate to practice in Kentucky, 418.
Human and bovine tuberculosis, 48.
Hydrocystic adenoma of the skin, 560.
Hygiene of our schools, the need for a physician in charge of, 200.

INDIFFERENCE to diagnosis one of the dangers of modern surgery, 11.
Inebriety, public care and treatment of, 284, 298.
Infant born with no stomach, an, 409.
  feeding, 32.
Infection from library books, 238.
  of transportation, 648.
Infective myositis, 88.

Inflammation of the optic nerve due to alcohol and tobacco poisoning, 143.
Injuries to the eye from particles of a copying pencil getting into the conjunctival sac, 331.
In Memoriam:
  Walter S. Christopher, M.D., 353.
  Luther Holden, 353.
Iodide of potassium, on some unusual effects of, 616.
Iodine oil, 632.
Iris, double radial rupture of the, 28.
Is man an omnivorous animal? 181

JAPANESE medical corps, the—a comparison in efficiency, 23.

LANCET-CLINIC, the—renewals—a reader, 21.
Leukemia, X ray treatment of, 216.
  chronic myeloid, 269.
  and the X-ray, 388.
Licking County Medical Society, 236.
Literal literary windfall, a, 533.

MACULAR atrophy of the skin, 129.
Magnet in ophthalmic surgery, the, 330.
Malignant disease, the treatment of, 49.
  growths of the eye, 397.
Mastoid cases, report of two; death from cerebral complications, 467.
Mastoiditis complicated with acute nephritis and erysipelas, 41.
  result of Stacke-Schwartze operation for, 141.
  report of an operation for, 142.
  case of acute; complicated by facial paralysis and osteo-phlebitic pyemia, 559.
Meatus, absence of the, 295.
Meckel's diverticulum, the surgery of, 241.
Medical College of Ohio, annual commencement of, 641.
  library, value of to a community, 573.
  libraries of Cincinnati, a brief history of the, 572.
Mental disease, quantitative and qualitative leucocyte counts in various forms of, 52.
  disorders of adolescence, a study of the, 1.
Mesenteric cysts, 707.
Miami Medical College, annual commencement of, 642.
  appointments, 643.
  Valley Medical Society, 666.
Middle ear disease, diagnosis of, 360.
Mississippi Valley Medical Association, 691.
Molluscum contagiosum, some remarks, on, 700.
  fibrosum, 562.
Movements produced in the stomach and bowels by electricity, an experimental study of the, 180.
Muskingum County Medical Society, 274.
Myoma cutis, 144.
Myopia, 239.

NATIONAL anti-smoke convention, a, 561.
  Association for the Study and Prevention of Tuberculosis, 667.
  tuberculosis meeting, 477.
Nephritis, patient demonstrating the use of theocin in the treatment of, 139.
Neurasthenia, work as a remedy for, 145.
Neurofibroma of the acoustic nerve, 57.
Nevi, frequency and distribution of among the insane, 56.
New method of generating formaldehyde for fumigating purposes, a, 502.
Nineteen hundred and five, 21.
Nitrous oxide-ether series by means of a new inhaler, 307.
  administrations, report of 445 cases in further recommendation of the advantages for short and long general anesthesia, 403.
Nose, study on the secreting mechanism of the, 716.

OBITUARY:
  Walter S. Christopher, M.D., 300.
  Adolph Zipperlen, M.D., 302.
  Herbert Ellis, M.D., 390.
  W. T. Dunlap, M.D , 390.
  Theodore Sittle, M.D., 479.
Obsessions and sexual life, 57.
Ohio State Board of Health, the, 237.
  leaflet of the, 178.
  State Medical Association, 501, 503.
  State Pediatric Society, 478.
  Valley Medical Association, 203, 231, 298, 354, 474.
Ophthalmo kinetograph, an apparatus to record ocular movements, 332.
Optic neuritis during lactation, including a reference to other ocular conditions observed in this period, 331.
  thalamus, contribution to the study of the functions of the, 244.
Orthopedic diagnosis, the radiogram in, 70, 77.
Osteopathic bill, governor vetoes, 615.
Osteoplastic operations on frontal sinuses for chronic suppuration, 450.
Otitic brain abscess—report of two cases—observations concerning the disease, 563.
Otitis media, argyrol in acute, 105.
  chronic suppurative, 333.
  suppurativa acuta complicated by double pneumonia and septic thrombosis of the jugular bulb, 334.
Ovarian abscess, a case of post-typhoid, 110.
  cyst, 531.
Overlapping the aponeurosis in the closure of wounds in the abdominal wall, 151.
Oysters and typhoid fever, 274.

PAIN in the back—a clinical lecture, 121.
Painful os calcis, 43.
Panama Canal situation, Dr. Reed's investigation of the, 350.
  commission, a new, 417.
Pancreatitis, acute hemorrhagic; operation and recovery, 306.
Paranoia, 243
Patient operated upon for extensive epithelial neoplasm of the right orbit, 531.
Pelvic diseases in women, two etiological factors in; their prevalence and prevention, 288.
Penetrating wounds of the eyeball, with presentation of specimens, 369, 385.
Peritomy for diffuse corneitis and other affections of the cornea, 701.
Phobia of inspection, 56.
Phonograph acoumeter, 152.
Physiologic method, the treatment of so-called incurable chronic disorders by the, 520.
Physiology, 167.

Piles, contribution to the pathology of external, 703.
Piroplasmosis hominis(?)—spotted fever of Montana, 481.
Placenta previa, Cæsarean section in, 304.
Pleuritic effusion, the treatment of by paracentesis and incision, 586.
Pneumonia in high altitudes, 176.
Politics and sanitation, 693.
Popliteal aneurism treated by arteriorrhaphy, report of a case of, 544.
Portland session, the, 715.
Post-operative infection of the eye, 92.
  nasal hemorrhage, 449.
"Potato" tumor of the neck, 90.
Pott's disease with some unusual features, 173.
Pregnancy complicated by tumors of the uterus, 32.
  chorea in, 277.
  lead poisoning from wall paper during, 277.
  relaxation of the abdominal walls after, 265.
President's address, 347.
Prognosis, 431.
Prostatectomy, 170.
Prostatic enlargement, pathologic changes resulting from, 222.
Pruritus ani, the cause and treatment of, 697.
Psoriasis vulgaris, 540.
Pseudomembranous angina of syphilis and diphtheritic angina, 57.
Ptosis of abdominal viscera, 537.
Public Health and Marine-Hospital Service report, 82.
Publicity, 591.
Puerperæ, care of, 277.
Puerperal infection, saline infusion in, 265.
  convulsions—cases and treatment, 393, 411.
  sepsis, a case in which serum treatment seemed beneficial, 405.
Pyonephrosis of kidney, 532.

RADIUM, experiments with in some nose, throat and ear cases, 119.
  its value in medicine, 555.
  in nose, throat and ear diseases, 643.
Rectal alimentation, 177.
Relationship between non-suppurative otitis media and facial paralysis, 357.
Renal calculus removed from ureter, 558.
Report of the Health Department of Dayton, O., 303.
  on operative work in the ureter through the author's catheterizing and operative cystoscopes, 245.
Retained placenta, 408.
Rheumatism, 32.
Rupture of the circular sinus during labor, 278.

SALUBRIN in diseases of the respiratory tract, the use of, 426.
Sarcoma, demonstration of specimen of compression of larynx due to, 142.
  of the maxillary sinus, 718.
Scientific and teaching phase of our new hospital, the, 326.
Second Councilor District Society, 27.
Shifting dullness and its importance in connection with surgical disease, 351.
Sigmoid sinus thrombosis, 334.
Sign that is indicative, a, 116.
Snapping hip, 45.
Some dermatologic X-ray abuses, 434, 443.
Specimens, exhibition of, 686.
Splenic anemia—Banti's disease(?)—splenic enlargement for five years, hemorrhages for one year, case of, 439.
"Spotted fever" of Montana, a suggestion as to the treatment of the, 579.
Sprains of the knee and ankle joints, 329.
Stomach, a criticism of recent surgical literature on diseases of the, 59.
  specimen of dilated, 137.
  the accuracy of modern clinical methods in the diagnosis of disorders of the, 714.
Stricture of the esophagus, case of cicatricial, 449.
Sudden death, especially from embolism following surgical intervention, 151.
Suicide, new method of, 389
Sulphate of copper, the use of, 146.
Supraorbital neuralgia, 266.
Syphilis, the ocular manifestations of cerebral, 33, 42.
  of the eye, 134.
  considerations on inherited, with special reference to paternal inheritance, 593.
  a case of innocently acquired in a boy aged thirteen, 684.
Systematic examination of sick children, 93, 107.

TEAR-PASSAGES and their diseases, the, 15.
Tenotomy of the tendo-Achilles in partial amputations of the foot, also in oblique, compound and comminuted fractures of the tibia and fibula, 66.
Thoughts suggested by a study of the eye injuries of Independence Day, 90.
Thrombosis of the jugular bulb, 58.
Tic douloureux treated by removal of the right Gasserian ganglion and excision of the left inferior dental nerve, a case of bilateral, 226.
Tinnitus aurium, the vascular theory of, 333.
Tonsil separator and tonsil forceps to facilitate tonsillectomy, 717.
Tonsils, the functions of the, 361.
Tooth-plate in the esophagus, 530.
Traumatic ptosis of the left upper lid, 171.
  tetanus, 451, 469.
Transverse fascial incision for operations in the pelvis, the, 363.
Trudeau, Dr., 662.
Tubal pregnancy of years' duration, 277
Tubercular kidneys, specimens of, 532.
Tuberculosis with some unusual points of interest, a case of, 19.
  of knee-joint following gonorrheal arthritis, 172.
  (clinical features), on the healing of, 179.
  from a surgical standpoint, a study of, 421.
  altitude in pulmonary, 534.
  movement against, 535.
  of elbow joint, patient with, 558.
  out-door treatment for pulmonary, 645.
  a working programme for associations for the prevention of, national, State and local, 655.
  what is Cincinnati doing in the warfare against? 660.
  intraocular, with report of two cases, 690.
Tumor from the shaft of the femur, 171.
Twins, 297.
Typhoid fever and appendicitis, 124.
  a recent epidemic of, 176.

pathology of, 604.
clinical history of, 606.
treatment of, 608.
surgical treatment of perforation in, 611.
in children, 626.

ULCERS of the larynx for diagnosis, 141.
Ultimate results of cicatrization of the lower turbinate, with therapeutic suggestions based on histological findings, 120.
University of Cincinnati, Endowment Fund Association of the, 50.
Ureter, effect of tubal abscess upon the position of the, 240.
Urethrorrhea, 528.
Use of normal saline solution in surgery, the, 465.
Uterine fibroid, specimen of; typhoid after operation, 267.

VACATION, 691.
Venereal disease, personal prophylaxis in, 480.
Vesical calculi, 450.
Vital values, 678.

WARREN County Medical Society, 352.
Well-merited promotion, a, 445.
Witzel's method for high amputation of the rectum, 150.
Wound infection, the question of; with special regard to those due to catgut, 401.

X-RAY, value of to the general practitioner, 197.
as an aid in the diagnosis of some ocular traumatisms, with report of four cases, 293.
workers, a warning and a protection for, 578.

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A STUDY OF THE MENTAL DISORDERS OF ADOLESCENCE.*

BY FRANK PARSONS NORBURY, A.M., M.D.,
JACKSONVILLE, ILL.,
Medical Superintendent Maplewood Sanatorium; Neurologist to Our Savior's Hospital; Formerly Assistant Physician Illinois Central Hospital for the Insane; Formerly Resident Physician Pennsylvania Institution for Feeble-Minded Children.

When I first considered the presentation of a clinical study of the mental disorders of adolescence as a suitable subject for discussion before this Associaton, I had in mind the psychological analysis, along clinical lines, of the special features of the mental disorders of this period, but, as I reviewed the cases coming under my observation and the very important relationships which they bore to sociological problems, with which physicians, as a rule, do not concern themselves, I persuaded myself to depart from the essentially technical review of the subject—the purely medico-psychological view—and to make it more or less general, inasmuch as I am addressing the general practitioner rather than a society of specialists. Again, I am aware that comparatively few physicians, either in their course of study preparatory to medicine, or during their undergraduate and post-graduate medical studies, pay much, if any, attention to psychology, normal or abnormal. The result is that the practial utility of such knowledge is not appreciated and the grave errors of omission and commission seen by the alienist are allowed to occur. The hit-or-miss policy, too frequently followed in dealing with the every-day problems of adolescence, becomes the source of a real grievance, especially when the adolescent, burdened with his or her own misgivings, consults the family physician and is dismissed with that refuge of ignorance, the stock phrase—"Oh, you are a little nervous and will soon grow out of it."

Now, it is not my purpose to appear academic, but in order to present the essentials of psychology upon which we can base a comparative study, it is necessary to review some features of normal psychology of adolescence. The normal psychology of adolescence is a study of mental contrasts, varied in their variations, kalediosc opic, sudden and inapt, marked by acuteness of perception through all the avenues of sense perception; in fact, the function of every sense undergoes reconstruction and their relations to other psychic functions change (Hall). The new sensations affect the conscious self, stimulate emotions, create new emotions, exalt or depress emotions, and, by the injection of the subtle variations of sex, color life in new and varied hues. These sex variations have a psychology distinctly their own, which, if understood better by physicians, would serve the purpose of guiding aright many unfortunate cases sent adrift by unwholesome advice of the quack.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 12, 1904.

"Adolescence," as Stanley Hall well says, "is a new birth for the higher and more complete human traits that are now born." The child represents the accumulation of ages in his paleopsychic traits—"the boy is father of the man in a new sense, in that his qualities are indefinitely older and have existed well compacted untold ages before the more distinctly human attributes were developed" (Hall). But, in the youth, the qualities of body and soul that now emerge are newer, the later acquistions of the race slowly become preponent. These changes do not take place suddenly; in fact, their evolution, in their natural order, requires time, for Nature takes her own time in the struggle which is going on in her endeavor to perfect, in every way, the product in hand. For this reason we find that the great law of heredity, which has for its ultimate object the preservation of the race, stamps its approval or disapproval so conspicuously during this period. There can be no doubt that it is during this decade of development that the greatest of the hereditary qualities come out and the most dangerous of the hereditary defects show themselves.

The psycho-physical study of adolescence, too, shows the growth of power and function. It serves to study the normal in its physiological development and acquaints us with one of the greatest laws affecting mental and nervous phenomena—the law of rhythm. The periodic ebb and flow—the periodic rest and energizing—this when along normal lines assures a well-arranged, well-developed organism, superb in its mechanisms. The perfection of the individual requires the adjustments of these mechanisms—the perfection of rhythm in function, the balance between katabolism and anabolism.

In the practical application of this knowledge we learn how essential it is that the reproductive system adjust itself to the law of rhythm, how full potentiality of the individual woman is not reached until all of these adjustments have taken place. It is especially during the adolescent period that the evolution of the neuroses occur, and peculiar mental habits, the lesser mental anomalies, are formed and developed. Clouston says: "It would be taking a narrow and unscientific view of the pathology of puberty and adolescence to forget that the psychoses of the period are merely one of a series of neuroses to which it is a subject. It is, in fact, the last neurosis of development to appear."

Doubtless you all have had occasion to note the psychical differences and contrasts of this period, and especially the change in the youth regarding his own conscious self. The youth craves more knowledge of self, of the world, of life in general, and to try his powers in achievement. In the young man the development is along such lines, to which may be added idealizing and a craving for achievement. In the young woman the emotions are subtly brought into prominence, the craving for creation of ideals, the heroic—the matinee hero becomes a God in many cases. She craves love, admiration, devotion, and evolves the beauty in character and womanliness which makes her, in natural normal self, the perfection of God's creation.

The sad side of life at this period, psychologically speaking, is when the anomalies of mind show themselves—it is hard to regard such deformities and failures as the waste-heap of Nature, designed and brought into prominence for the purpose "of stopping the propagation of a breed of the unfit," yet, alas, this is, for Nature has no regard for the prodigality of life necessary to preserve her species, and the unfit must step out in order to preserve intact the human species. The timely interruption suggests the appropriateness after all of the means used, for it is the mental attributes of man which make him the highest creation of God, and without mind in equipoise no evolutionary progress can be made nor the normal maintained.

It is a just retribution, after all, which the family is called upon to suffer, even though through ignorance the mental dissolution is brought about. Striking, indeed, is this picture showing the law of the sins of the father being borne by the children, and it is almost daily in the experience of the alienist and the neurologist. The following case is typical of many of my own experiences:

A young woman with a family history of mental disease, syphilis and alcoholism, herself college-bred, refined, bright, pretty, precocious, with an enviable record in her studies, at the close or her junior year in college, collapsed mentally, and during the summer months showed morbid self-will, perverse tendencies, wishing to associate with young folks much below her standing in morals and accomplishments. In spite of the wholesome influences thrown about her by a foster mother, she kept on in her evil ways, and in September developed a morbid melancholy state characterized by disinterestedness, inattentive to the niceties of her toilet, whimsical yet inert, unemotional yet given to introspection and trying to analyze her own feelings. She became intolerant to authority, and on this account was brought from her home in Missouri to Illinois. Here she became even more difficult to control, and her relatives, in despair, after she had eluded their guardianship and run away, found it necessary to restrain her. Thereupon she became maniacal, destructive, lewd and untidy. She was taken in hand by authorities of the law and soon came under my observation. The acuteness of the attack of maniacal excitement had subsided when I first saw her, but the exaggerated self, the pugnacious, destructive tendencies and morbid sentimentality were decidedly in evidence. I felt that this maniacal excitement had been but a skirmish, and that we were on the eve of the real battle when mania would be more pronounced. This proved to be true, for within a few days the real mania, with its violence, broke forth. I was compelled to surrender her control to the State hospital, because of the violence and noise, and now, after a year, the patient is still in a violent ward because of the repeated recurrences of violence and maniacal excitement. Dementia has supervened, and this once bright, interesting girl has paid the penalty of family disintegration due to neurotic heritage and family living. Dementia precox is the finality in this case, as she is only one of thousands which pay such a penalty—and justly we may ask, was such a fate inevitable? In the light of accumulated experience of to-day, I would say, yes. In the words of Kraeplin, "this infirmity is the incurable outcome of a very common history of disease." It is perhaps the most striking form of adolescent mental disease, and is the outcome of the trial period to detect congenital weakness.

Now, when we summarize the clinical observations of mental disorders of adolescence, we find that they can be grouped in a manner leading to a classification which is more or less satisfactory. The pathological symptomatology must be grasped in order to perfect our means of diagnosis and to assist us in one of the greatest problems of mental disease—prognosis. I have selected a few cases from my records, each presenting some clinical feature more pronounced than in the others, and the whole number covering in symptomatology the features of adolescent insanity. These cases are presented with a view of giving a comprehensive view of adolescent mental disorders. The cases are true representatives of the insanities of adolescence, and two cases are typical of the psychogenic affections, hysterical and borderline states, so frequent at this period. I will speak of the latter class first.

This class represents a large number of patients, all of whom are, to a greater or less degree, victims of hereditary conditions coupled with an environment also neuropathic; these coupled conditions produce the so-called developmental neuroses and psycho-neuroses. Adolescence is the first period wherein these coupled conditions have an opportunity to show their causative influences in nervous and mental diseases. Clouston says: "There need be no exciting cause from without—the cause is simply within the brain in its own process of development and the quick metabolism, and taking on of new functions." However, the most disturbing cases that I have had in the treatment and care of mental disorders of youth have been those where the environment has been faulty—where the hereditary potentialities have not been curbed, but allowed to run riot, fostered by the very psychopathic moral influences from which they sprung. Upon this background is painted the psychogenic affections which are so distressing—the borderline psychoses, the deliriums, hysteria, and last, but not least, the insanities of puberty and adolescence. Hysteria is an affection which the general practitioner too freequently regards as a common disorder. He makes such a diagnosis and is content to let it go at that. My office records show this is decidedly a frequent diagnosis; these cases almost as frequently prove to be *more* than simple *hysteria;* I would say that the tendency of the times is to make the diagnosis of hysteria less frequent, and to ascribe much of the puzzling psychical phenomena noticed during adolescence to a psychosis.

This is the teaching of Janet. of Paris, and of Dana in this country. Dana, in a recent address before the St. Louis Medical Society, said that he hoped to see the word hysteria more or less discarded, inferring that a nomenclature more fitting is to be found in the term psycho-neurosis. Clinically speaking, hysteria is a psychosis—a true disorder, never an imitation—and with its stigmata, physical and psychic, should be recognized early and early treated in order to thwart its baneful influences on character and mental growth.

The experience of all physicians who have taken pains to study the mental traits of the adolescent hysterical patient is that the neuropathic family history and the home environments are the prime etiological factors in such cases. This is illustrated in the following case sent to me with the diagnosis of hysteria, and showing marked psychic symptoms:

A young woman, aged seventeen, a student in preparatory school, daughter of intellectual parents, the father a prominent minister, the mother a marked psychic neuropath. Both parents, overly indulgent and given to overwrought emotionality, have not encouraged the daughter to consider unselfishness as a trait worthy of her cultivation; on the contrary, by reason of her self-willed tendencies and determined efforts to demand parental sympathy, without just interference during her childhood, the parents allowed her to grow up in environment which has encouraged selfishness, made possible lax methods in her living and gave the foundation to the mental disorder which eventuated from the combined condition. When opposed she usually secured her coveted designs in some way, and as she prospered in her plans she became even more lax in her moral considerations, and finally the psychic storms culminated in the progressively developing psychosis which to-day is a lamentable source of anxiety and expense to her parents. The mind is now invalided and she is alienated from home, and doubtless will be for the years that are to come. While for a time she had remissions, yet let some slight morbid agency or emotional climax disturb her, then occurs another protracted period of mental disturbance. I have had this young woman under my care a number of times and under the discipline and systematic care of the institution succeeded with judicious suggestion, appropriate training of neglected will-power and attention to personal hygiene, mental and physical, in getting her started along lines which, in my judgment, would have eventuated in possible relief had not her premature removal to home environment ensued. Unfortunately, the indulgent parents, after four years of turbulence, have allowed this young woman to become her own master to such a degree that I cannot foresee much relief without prolonged and complete isolation from her parents.

This case impresses forcibly upon me the saying of Bosnia, quoted by Taylor: "Wrong education is a most powerful factor in the causation of psychogenic troubles, especially in cases where a natural disposition towards them exists. If, through wrong education, moods are not suppressed, good habits not established, training of will-power neglected and the imagination allowed to run riot, we are in great danger of cultivating the neurasthenic soil on which all sorts of psychogenic affections may grow."

Case II differs from the one just recited: first, in environment; second, in educational means and methods. This young woman, the daughter of well-to do parents, aged twenty-one, came under my care with the diagnosis of neurasthenia having been made. Her history was that of a bright, happy child up until the time of the death of her mother, which occurred when the child was twelve years old. This death broke up the home and the patient was placed in a boarding school under control of Sisters of the Catholic church. Here, her career was not unusual; she was an average student, but susceptible to her environment. She became rather morose, introspective—in fact, self conscious and overly conscientious. During the vacation periods, when at home among her friends, she seemed to be given to transient periods of depression, more or less unsocial, and preferred to be alone with her books than to enjoy the company of young people. She read works on religious contemplation, etc. Her father sought to enliven her by taking her to summer resorts and to travel; he kept her from school one winter and took her to Florida. She was not moved by these diversions, and repeatedly asked to be permitted to return to school. She entered one of the leading colleges for young women in the East, where she made a good record during the first semester, but during this period she developed insomnia, morbid dreams and mild night terrors, then she began to lose interest in her studies, was given to crying and self-condemnation. She returned home and here was determined to resign herself to a life of seclusion. She lost weight, was pale, anemic, suffered from constipation and amenorrhea. I saw her during the fall of the year that she gave up her school work. She had then become very melancholy, with suicidal tendencies, no delusions, hallucinations or other special mental symptoms. Upon inquiry into her family history I found the ancestral influence, "with its pulsations," as Bevan Lewis expresses it, and learned, too, that she had been handicapped during the epoch of development by a late puberty, not menstruating until seventeen, and then irregularly. Amenorrhea became a feature, and was marked during the periods of depression, some of which lasted three or four months. There was associated anemia, and anemia was present when she came under my care, as showed in the examination of the blood. She also had a spinal curvature, which was a revelation to her father. She gave evidences in general of perverted nutrition.

Here was presented a case of faulty development, the reproductive system had not been fully developed, and the sexual element, in its endeavor to force itself in her mental life, was creating more or less commotion of the nervous centres. The physiological cycle had not yet been fully established—the rhythm, in other words, was in a discordant state and reflected itself upon mental life, nutritive changes, expressed in mental depression, vague misgivings, etc. Environment certainly was a feature, as the natural lines of development were affected by the educational system and religious espionage under which she was placed. There was a check to healthy expansion, to normal girlhood, the personality was dwarfed, or, at least, cramped in the imposed bondage of mind and body.

To the normal girl no such disturbance would have followed, but to the impressionable, self-conscious child there was, by suggestion, precept and example, a decided impression made. We know from the normal psychology that this is the period of greatest religious awakening and of emotional impressionability; hence, the change in this girl, who, with hereditary psychopathic tendencies and an under-toned and under-developed bodily organism, succumbed to the combined influences of environment, educational system and lack of bodily development. This case appealed to me, and I put her upon an absolute rest treatment, with the adjuvants, massage, hydrotherapy and feeding, gradually pushed to the fullest extent. In about two months after treatment began her menses returned, she gained in bodily weight, the morbid mental aspect of her case disappeared. She took up her music once more; eventually she became a happy, cheerful, energetic young woman, and within a year, in appearance, another person. She entered society and took up the routine of her home duties.

This case was a borderline mental condition, and could have crossed over into more profound mental alienation without much trouble. This is the class of cases of which Bevan Lewis says: "The natural lines may be blocked by unfavorable social surroundings, a vicious educational rôle, or by unhealthy occupations, which, while they undermine the physique or check its healthy expansion, often afford no food for mental life, but dwarf its stature and cramp its unfolding energies."

Within the past few years there has been a great deal of thought and earnest inquiry into the study of adolescent mental disorders. Kraeplin, with his thorough analytical methods of study, has given us new views of these diseases, and while as yet his classification and deductions have not been accepted by alienists in all countries, yet it is true that he has given us the most elaborate studies thus far of the essentially morbid psychology of adolescence. Whether or not alienists are ready to accept his deductions does not concern us, but we are concerned in the practical application of his studies in the clinical differentiations which we are called upon to make. In the following case I believe that I present almost a classic type of Kraeplin's dementia procox, which is of interest in showing the evolution of the mental disease, its clinical course and the importance of treatment:

W. G., aged twenty-four, commercial clerk, college man but not a graduate. His family history is negative, excepting that his mother died of tuberculosis when he was a child. He was a precocious child, a bright, "pretty boy," as one of his neighbors said. He stood well in school, prepared for college and entered, completing two years, when, at the age of seventeen, he began to grow lax in his studies; he did not lack attention, but would not apply himself, said it tired him and depressed him. Later he complained that he could not remember, then he became more depressed, rather listless; he cut his recitations and society work and began to avoid his fellow-students. Next he displayed foolish conduct, and finally he disappeared from the college and began an irregular life, indulging in cigarettes to excess, occasionally drinking and leading a more or less dissolute life. He gave this up suddenly and for a time held a position as clerk, but he found these duties irksome and unsatisfactory. He then went abroad with friends to take up university work, but in this he failed and returned home within a year. Now, with fully eighteen months of prodromal symptoms, there comes a climax in an outbreak of mania which was supposed to be due to alcoholism, inasmuch as he drank occasionally and it was said of him that a little drink went a long way. He was treated for alcoholism; he recovered from this attack, which was fast and furious, but of short duration. At this time he was adjudged insane. It was noticed now that he was dull, apathetic; he had delusions, hallucinations, would laugh to himself; isolated, violent imperative acts were noticed. In time these became stereotyped in form. Following these attacks he would be quiet, and then perhaps for two weeks or more display cataleptic conditions. He would not talk, or if he did, it would be in a slow, hesitating way. In time this condition would give way to negativism, wherein he was resistive to everything, including food and bathing. Periods of stupor would follow, to finally give way to lucid intervals wherein the patient would display a hazy memory of what had transpired during all of these periods. A remission of several weeks followed his first attack, but the second, which occurred under my observation in its initial excitement, then this maniacal outbreak gradually was relieved. His condition during this attack was much the same as the previous disturbance, excepting the dementia was now more pronounced. One physical symptom—intense perspiration—was an interesting observation during the attack. He has since passed through several minor outbreaks with repetition of the mental features, and has lately shown some paranoid symptoms.

Case II.—A case of katatonia illustrating this form of adolescent insanity. L. C., aged nineteen, a student in preparatory school, of fair family history; his mother died of pulmonary tuberculosis at the age of forty-five. The patient was a bright, average boy, raised in the country and accustomed to out-door life. He entered preparatory school, where he did well for the first six months, then he began to be lax in his studies, but at times very studious. He became excitable and very talkative, would write long letters to the young ladies, then proposed marriage to one, and when she refused to accept his attentions he became furious. He was then sent home, where he soon manifested stupor and was confused. He was adjudged insane and came under my care in a state of stupor. This finally eventuated in the katatonic stupor described by Kahlbaum, in which the rigidity of the muscles is a feature and which is increased by interference. The limbs will remain in any position in which they are placed. The patient was fed and cared for like a child for several months. After passing through the various grades of stupor, all of the time silent as to speech and voluntary action, he finally began to show interest in his surroundings. His first efforts at speech were the repeating of the question asked him by his nurse (echopraxsis). Next he imitated the movements executed by the nurse, also a feature called automatic obedience. He passed through these stages and finally made a complete recovery, and now for fifteen years has not shown any mental disturbance. He is a prominent and successful farmer.

Case III is a fair representative of the type of manic-depressive insanity which so commonly has its beginning during the period of adolescence, while not essentially classed as adolescent insanity. It is a form of mental disease more common among women, and has a distinctly hereditary basis. The patient's history showed that the mother was insane and had been confined for several years in the State hospital. One brother has been insane and was under treatment for six months in the State hospital. Her father is a chronic alcoholic. With such a history we would expect a more or less chronic form of mental disease to eventuate in this patient, and also to have it make its appearance during adolescence. The onset of the attack was characteristic, viz., mental depression for two weeks, with headache, insomnia, apprehension and dream states, more or less disturbing and depressing. This was followed by exaltation, mild at first, in which self-assertive and self-satisfied states prevailed and brilliant flights of memory of songs and music, which she would sing with decided dramatic effect. A gradual increase of excitement was noted; her power of language and expression became brilliant, quite foreign to her normal condition, although she had been an apt pupil in school. Her play of words was characteristic; her jests, her anecdotes and personalities became unpleasant indeed to her family, who were endeavoring to care for her. Her conduct became violent, her talking loud and constant. Pending her removal to the State hospital there were no hallucinations in evidence, although illusions were pronounced. Although in such cases what appears as an illusion may be a playful, capricious use of faces, objects in a more or less willful way. Delusions, too, were not pronounced at first, only in occasional reference to attempts at poisoning. But, later, the delusions were expansive, claiming supernatural abilities and relationship to notable personages. There were decided breaks in the continuity of thought excepting when singing a song. The incoherence was a feature, but attention was not lost, although superficial, for she noted the passage of trains and spoke of them. The greatest distress to her family was the apparent moral perversity; she was profane and vulgar, a moral attitude entirely foreign to her nature. For she was a consistent, refined, intelligent young woman in normal mental health. The emotional storms were characteristic, changing readily and frequently. At the height of this maniacal activity she was admitted into the hospital.

I have followed many of these cases from ten to fifteen years, thus having an opportunity to note recurrent attacks. Some have had as many as eight in ten years, others may go from two to five or ten years without a recurrence. Others merge from one attack into another, which makes them continuous residents in the hospitals. The form of disease may change from one attack to another.

It is evident from the recital of the cases that the evolution of mental disorders is along natural lines; the whole being of the individual undergoes at this period an evolutionary and revolutionary change, a change of self, the incoming new sensations; "new sentiments spring into life, fresh begotten emotions (redundant in energy) tend to further overthrow canons of belief, and the judgment is swayed by such over-balanced factors." The moral control is especially apt to be lost; the moral convulsions at this period may swing the balance either way, and we have religious enthusiasm or the vicious debauche resulting. I have watched this toppling of moral centres so frequently in the evolution of such cases that I mark it as an early symptom, and suggest to parents and teachers its great importance. The explosiveness, too, of the symptoms demand recognition by the physician and the impulses resulting must be considered of importance. But all of these changes are along natural lines of evolution; hence, if cared for properly, tempered to meet the conditions, it suggests the favorable prognosis of fully two-thirds of all cases. Bevan Lewis gives the percentage rate as 73.3 per cent. for females and 58.4 per cent. for males. The greatest number of recoveries in females is explanable along the lines of sex divergence and all that this implies, and to the fact, pointed out by Kraeplin, that dementia precox, an essentially chronic form of mental disease, is more common among males. Partial recoveries are apt to be the prognostic feature in about 10 per cent. of all cases—Lewis' figures being 7.6 per cent. for females and 14.4 per cent. for males. My experience is about 10 per cent. as I have reviewed my cases. These patients, as expressed by Defendorf, show a lack of interest, are unbalanced and unable to advance in their work. I have noted a number of college students who have had to give up their college work, who, while making partial recoveries, have never been able to apply themsleves afterwards. One student I know, who held an enviable record up to his junior year, has made a partial recovery from dementia precox of hebephrenic form and is now farming under the direction of his uncle. Another, who was especially expert in mathematics, and who is a unique personality even now in his abilities in mathematics, is very impractical, visionary and not able to support himself. He has tried school-teaching, but gave it up because he was troubled with visions; he has hallucinations of both sight and hearing. A young woman who made a partial recovery has made repeated attempts to become self-supporting, but has always failed.

Kraeplin holds, I believe, that no case of dementia precox should be held as a perfect recovery, for the future will show, sooner or later, some mental deterioration. They lack capacity, application and endeavor, and succumb to extraordinary disappointments or other intervening disturbing agencies. Terminal dementia is the result in about 15 to 20 per cent. of all cases of adolescent insanity. Lewis gives 13.3 per cent. in females and 17.3 per cent. in males. This stage, the finality so far as mind is concerned, is one of Nature's ways of removing the unfit from the field of action. It is a conservative measure in spite of its sadness—it is picking off the defective bloom and casting it out, and while we deplore it, we nevertheless recognize the necessity when we consider race preservation and race development.

The prognosis in cases of katatonia is not unpromising, and even after a duration of a year or more a case is not outside of the possibility of recovery. One of my cases was two years an inmate of the State hospital; he made a good recovery and is now a prosperous farmer. Another of four months' duration has had a recurrent attack with a lucid interval of over two years. His second recovery, if we so choose to call it, seems permanent, as he is now, after five years, settled in a prosperous business and is doing well.

Hebephrenia is not so favorable in its outlook. It is a progressive disorder of the mind in which deterioration is a feature. The mental defect varies in degree in each case, but on the whole fully three-fourths of all cases are marked by a profound dissolution of the higher faculties of the mind. Quite a number of cases, after a varied length of time under hospital care, can be returned to their homes, but usually need oversight in occupation and general care. Perhaps 10 per cent. of such cases may be regarded as perfect recoveries, but even these cases lack initiative and their future is narrowed in their capacity to do and to achieve.

The prognosis in other forms of mental disease occurring during this period is, on the average, good; by that I mean of the total number of cases, on an average about two-thirds to three-fourths recover in patients under the age of twenty-five years. In the special forms of adolescent insanity there is one factor entering into prognosis which I wish to impress upon the family practitioner, and that is the early recognition and treatment of such cases. Steadman, in speaking of dementia precox—which statement applies to all forms of adolescent insanity—says: "There is, we firmly believe, ground for hope of recovery at the very outset of the disease, and it is here that the immense importance of a knowledge of the earliest signs of cerebral fatigue becomes evident." He further says: "We look with confidence to the time when cases recognized early by the alienist, while yet the patient is comparatively comfortable, may be saved from an attack by well-directed oversight and regulation of habits and surroundings, insisting chiefly on rest of mind and body, abundant food, and life in the open air away from home." When the attack has developed, Steadman says: "The hospital is the only safe place short of private care with a special nurse and a physician in constant attendance. . . . . Throughout the attack the main reliance is the patient's absence from home and relations, experienced medical oversight and nursing, freedom from all disturbing influences, especially meddlesome attempts to entertain, quiet surroundings, regular exercise, baths and abundant supply of food. . . . Brain-rest, not diversion, is the supreme indication."

In regard to the treatment of the mental disorders of adolescence, I would say that for the past three years I have adopted at the outset full rest treatment in hebephrenia and katatonia, and also in selected cases of dementia precox. My experience is that the personal attention which this treatment requires is productive of better results than the usual asylum experience. It individualizes treatment and aims directly at the underlying physical debility, which is a very important factor in the disease. It conserves energy, prevents exhaustion and controls excitement. Rest is essential even if it has to be had by the application of restraint, and I do not hesitate to apply restraint when I think it is indicated. It is far better to conserve the energy of an exhausted, excited patient by mechanical restraint, under intelligent supervision, than to have nurses endeavoring to hold them in bed by physical force, which only antagonizes the patient, adds to her delusions and creates the opposite results than what treatment desires to achieve. Full feeding, even if it has to be with a tube, must be followed diligently, carefully, and in accordance with the needs of the patient. In no other form of mental disease is it more imperative. Then, in order to have the food assimilated, massage is necessary, for we cannot have full feeding without massage. My experience justifies me in saying that massage is practicable, and is indicated in the treatment of mental disease. I know that at first our efforts must be tentative in its use in most every case, but where one nurse is in charge of the patient soon there is confidence established between nurse and patient, and without much persuasion or much effort on the part of the nurse, where the massage is a part of the daily routine, it can be administered, and with success. I insist that a nurse who is with a patient day after day can sooner or later handle even the most obstreperous patient if there is a gleam of intelligence left in the conscious perceptions of the patient. We do not give enough credit to our patients for the knowledge they have of what is good for them. Massage is generally appreciated by the patient, but mixed with the massage and the manipulation should be what I consider of equal value in the treatment of mental diseases—the tactful, earnest, honest interest in the welfare of the patient. Without this it is best to dismiss the masseuse, for an untactful, crude, garrulous person will do more harm than good. Again, the massage must be skillfully given, and by a properly trained masseuse; the osteopath has no place with his crude manipulations, for it requires the judgment of a thoroughly trained masseuse who knows more than how to rub.

As a result of the systematized feeding, massage and other means designed to regulate the functional activity of the organs of the body, we expect our patient to show an increase in bodily weight. With the gaining of the first pound our hopes rise and rise higher with each succeeding pound; after a time we expect to see the slight, perhaps evanescent, lucid ray of intelligence, which, indeed, is a ray of hope. The weighing scale with us is of as great importance in treatment as the thermometer is in the treatment of fevers, and our time is manifested by the patient, and eagerly, indeed, do they note results. Each pound gained means nearer health and home, and in consequence the coöperation of the patient becomes a permanent factor in promoting recovery.

Another important part of the treatment is the bath. It is not necessary that it be given with all of the elaborate trappings of a hydrotherapeutic institute, but it should be given regularly, skillfully and according to the needs of the patient. I find that the friction sheet bath is especially indicated and serviceable in the treatment of katatonia, friction being maintained until decided reaction takes place. The cold bath is not advisable in such cases until during convalescence, when it may be used with advantage. I find that the simpler the form of the bath the better is the effect upon the patient, and in mental cases the less machinery and manipulation you have about them the better the success in doing what you want to do.

Electricity has a limited range of usefulness in the treatment of mental diseases, but in katatonia it is well to sometimes practice general faradization of the sympathetic nerve.

Exercise is of service after the bed period of treatment, and I believe this should be a feature. The nurse should take the patient out walking, and by degrees increase the time and distance of the exercise. Excursions into other parts of the city or country are advisable: first, to encourage the development of attention; second, to stimulate thought, conversation and general association of perceptions. Then, again, games requiring cultivation of coördination, such as croquet and tennis, are advisable; also indoor games to encourage consecutive thought and memory. All of these exercises, mental and physical, when pursued with consideration by a tactful, intelligent and companionable nurse, work brilliant results even in seemingly hopeless cases.

I believe in the earnest use of drugs in the treatment of mental diseases. I am not a therapeutic nihilist, and do not hesitate to use what I think is indicated. We cannot afford to lose the help of drugs in any department of medicine, and especially so in the treatment of mental disease. However, drugs can be and are abused shamefully, as well as the patient who is compelled to take them. The bromides especially have to suffer for the errors of commission on the part of many practitioners, and the non-use of properly-considered sedatives can be called errors of omission in other cases.

The happy mean can only be determined by intelligent consideration of the indications and a thorough application of appropriate drugs or combinations of drugs. To assist in nutritional regulation, the stomach and intestinal tract must be studied, and with laboratory methods, if necessary, and upon such findings found appropriate treatment. The blood must be studied and repeatedly observed where anemia or other debilitating influences show it is needed. Blood counts should become a routine measure in all adolescent cases, especially in girls. Upon such information only can we found rational systemic therapy.

The urine must be studied and permanent records made as a means towards diagnostic assistance. I find it absolutely a necssity as a means of differential diagnosis frequently in mental diseases. The menses must be observed and careful records kept showing all necssary information concerning this important function in its relationship to mental diseases of adolescents. And last, but not least, the sleep must be studied, first as regards disorders like dreams, night-terrors, etc. My experience has been based on the teaching of Weir Mitchell, and I make it a point to explicitly inquire regarding dreams. Frequently the dreams are the first prodromal symptoms of impending mental disturbances, and especially is this true of the hysterical type.

It is evident from the review of the mentals disorder of adolescence that while the majority of such cases yield to early and vigorous treatment, that even at best we feel some hesitancy in saying that these recoveries are perfect and that the individual is none the worse off, mentally, for having passed through such an attack. What should impress us, especially, is that the greatest good can be had in phrophylaxis and in guarding the borderline psychoses, leaving nothing undone that will assist in the relief of the affection. To do this physicians must study adolescence from the standpoint of psychology, and when we do this and follow, too, the instruction given us two years ago by our worthy and talented President, Dr. Patrick, on "How Not to Be Nervous," I am sure that the rather pointed criticism of physicians by G. Standley Hall will not be made. Dr. Hall said "that medical men have neglected the period of adolesence, largely because medicine has been chiefly concerned with the study and practical treatment of pronounced diseases, and has not yet come to rest it on the broad basis of biology, which is the natural and scientific foundation." He further remarks that "perhaps occupation, with flagrant symptoms, tends to give diminished interest, if not distaste for the milder and incipient manifestations of disease which require sharper diagnosis and higher quality of mind to detect."

My conclusions are that the family physician must recognize early these important mental disorders; that he must coöperate in every way with the alienist in their treatment, which must, in order to give the ounce of prevention, be energetic and imperative. Again, it is largely upon early and prompt treatment that prognosis depends, and that cases even with marked hereditary bias may yield brilliant results if such a plan is pursued.

Prognosis, however, must be guarded

for the accidents of mental disease; the intercurrent conditions all affect the future of such a case. Further, the after hospital care should be as careful and considerate as possible. A long convalescence should be urged and a year's release from occupation, cares or anxieties exacted in every case.

DISCUSSION.

Dr. John Punton, of Kansas City, Mo., stated that no doubt many cases heretofore diagnosed as hysteria and neurasthenia are cases of insanity. The sooner this is generally recognized the better for the public. These cases require the same treatment as other cases of insanity.

Dr. Albert E. Sterne, of Indianapolis, Ind., said the dictum has been pronounced that once a hysteric always a hysteric. Hysteria has been classed among the neuroses; it is really a psychosis. There is a psychopathic aspect to neurasthenia, but *per se* it is not a psychosis.

Dr. Henry F. Lewis, of Chicago, Ill., reported a case of hysteria in which several operations had been done by various operators. Hysteria is really a psychosis.

Dr. John M. Batten, of Downington, Pa., related a case of chronic hysteria in an old maid that terminated in marriage.

Dr. Curran Pope, of Louisville, Ky., does not make a diagnosis of hysteria as often as formerly. Neurasthenia borders exceedingly close upon the psychoses. The major symptoms of neurasthenia are especially those in the psychic sphere. There are two essential features. First and primarily, we must have the patient in a suggestive condition, with such surroundings and moral control that we can appeal to both the higher and lower centres. Second, we must have the physical condition as satisfactory as possible. The hospital cases do the best, where we have personal control of the patients. Unless there is a gross lesion, such as we would operate upon in the absence of the psychosis, we should not operate.

Dr. G. W. McCaskey, of Fort Wayne, Ind., is not ready to admit that either hysteria or neurasthenia should be regarded as primarily and essentially a psychosis. There is frequent association of the symptoms of these conditions with the psychoses, and possibly they may afford a good soil for the development of the psychoses. He agreed with the essayist regarding the value of nutrition.

Dr. Sprague, of Lexington, Ky., said "moral" treatment, which is a rather loose term, is important. Unless we admit the anomaly of a mental disease without insanity, it is difficult to classify many cases of neurasthenia and hysteria otherwise than as psychoses.

Dr. Greenley reported some cases in which the malady was evidently due to imagination, and the patients received benefit from suggestive therapeutics while ostensibly carrying on the usual therapeutic measures. It is not best to dictate what these patients think is the matter with them.

Dr. Norbury closed the discussion.

INDIFFERENCE TO DIAGNOSIS ONE OF THE DANGERS OF MODERN SURGERY.*

BY JACOB BLOCK, M.D.,
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Aided by the modern auxiliaries, anesthesia, hemostasis and asepsis, the surgery of the past few decades has probably kept pace with the advancement of the arts and sciences in general. A critical review only, however, can determine the truth of this statement. That the average layman has enthusiastically accepted it counts for little. An association of critics, including those drawn from other scientific fields, as well as that of surgery, would be the only competent court to decide. Acknowledging such a composite tribunal as indispensable to the solution of the question at issue, it is not my purpose to more than assume its probability.

Emboldened by the security afforded the operating surgeon, through the means just indicated, he has invaded every possible terrain in the human economy. What were regarded as the chimerical previsions of the hopeful and enthusuastic are now accomplished facts; the vagaries of a disordered brain, the acknowledged clairvoyance of a gigantic intellect.

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* Read by title before the Mississippi Valley Medical Association, at Cincinnati, October 11, 1904.

Eager to reduce theories to fact, every means has been employed in the development of perfection in operative technique. Whatever collateral art or science could offer or suggest was appropriated as the inherent right of the operating surgeon. The art of surgery, partaking of the spirit of its environment, yielded to the material demands of the age, where apparent success is the only criterion of merit. Nor has this utilitarian spirit been without its achievements, though chargeable with a percentage of faults.

Experiments looking to the relief and cure of the previously hopeless have brought comfort and health to countless thousands. Reduced mortality, the elimination of suffering, and economic conservation are the proud triumphs of the benevolent, as well as the ambitious, or, perhaps, even the commercial surgeon of the present era.

A spirit of restlessness, brooking no delay, has supplanted the tireless efforts of the subtle diagnostician. Where obscurity involves a plea for time a sanguinary prestidigitateur exposes the *raison d'etre* to the astonished gaze of the clinician. Where the diagnosis is all but certain he will not renounce his right. The knife only can reveal the cause. The pathologist even is forestalled by this intruding usurper. Exploratory and confirmatory sections, either synonomous or simultaneous, claim their rights.

To further develop surgery as an art, instruments of precision have rapidly multiplied to aid the senses where trenchant methods were neither available nor politic. That they have accomplished much is attested by the splendid achievements of those skilled in their use. They have diagnostically substituted the clever but uncertain guesses of the clinician and operatively minimized the risk, pain and expensive delays incident to more heroic methods.

Reducing diagnosis to an artistic objectivity seems to be the aim of some extremists. Not only are they indifferent to valuable subjective data, but they even regard them as misleading and dangerous.

With the development of surgery as an art, skillfully employing the mechanical means prompted by the scientific and material requirements of the age, what has become of the anatomic, physiologic or clinical surgeon? Has he developed *pari passu* with his artistic competitor?

With a Wagnerian display of sound, color, light and other accessories in the amphitheater, where is the soul of the affair? Who but the distant composer knows its *motif*? The artist even, not to speak of the inquiring spectators, is often innocent of this *leit motif* and remains uninitiated.

But there is a charm about that which we do not sufficiently apprehend, and especially when guaranteed by a sponsor of reputation. Here is the opportunity for the charlatan, and that the commercial pretender is making use of it is a daily experience. To the ambitious but honest, it is a safe conduct to satisfy an enthusiastic craving to allay suffering and acquire renown.

With the enormous increase in the number of operations performed during the past two or three decades, it would be difficult to collate comparative statistics, based on either mortality or cures, temporary or permanent.

It must be remembered that in proportion, both to the population and the diseases for which these procedures are undertaken, owing to the lack of comparative antecedent data, the ratio is hardly computable. Again, the operating surgeon loses sight of the vast majority of his surviving clientèle, proclaiming his skill as an artist, the family attendant often being in possession of the suffering mortal remains that have been accounted as surgical triumphs. Who knows the number of surgical neurasthenics, surviving legitimate or craftily devised operations? Who knows the number of deaths hastened by the exploratory or confirmatory incisors? Who knows the number so wrecked by the pretending, sanguinary diagnostician, refusing a second but legitimate procedure to relieve them, after the error has been disclosed.

A very few of the many it has been my lot to witness will bear narration with benefit, I am sure, to the most competent surgeon, if only to remind him that surgery is a science as well as an art.

Within the past few months an individual in the prime of life began to complain in that region doing credit to the acumen of McBurney. Appearing at irregular intervals and declaring itself with greater or less severity, it did not always abide in that vicinity, but wandered toward the median line, and even downward along the genitals, sometimes appearing in the loin, and on one occasion being sufficiently intense to confine him to his bed. I had an opportunity of seeing him a number of times. He had some elevation of temperature and acceleration of pulse with diaphoresis, warranting the presence of an inflammatory process. The loin and right lower abdominal quadrant were somewhat sore and tender to touch; meteorismus slight, and the other constitutional signs unimportant. Some two or three urinary examinations, among other things, always disclosed a few blood cells or shadows. Provisional diagnosis, either renal calculus or a local unilateral, interstitial inflammation. The possibility of tuberculosis was not excluded.

During an absence from the city, one or more of these attacks crippling the patient, a hasty diagnosis of appendicitis and an operation with negative findings was the result. To satisfy the inquiries of the patient and friends, an indefinite accusation of the kidney was made. Later examination by myself revealed continued presence of blood in the urine, often amounting to a microscopic hematuria. Leucocytes were abundant. Cystoscopy disclosed a cystitis, probably due to catheter infection. One operation sufficed to cure the patient's belief in surgery, and he must now relinquish the possible benefits to be derived from a second. There are other minutiæ, but I must waive the temptation of their recital for want of time.

The second instance of misapplied surgical art was in that of a tall, as well as somewhat portly gentleman, weighing some two hundred and seventy pounds, in the prime and vigor of life. He had complained of an indefinite pain, and distress in the right loin and hypochondrium. A very capable, as well as distinguished, operator felt convinced that a biliary calculus accounted for the disability. Operation failing to locate the offender, cholecystitis was made the scapegoat; the gall-bladder was anchored and drained for a few weeks with negative results. A carefully conducted inquiry and examination, made some few weeks later, removed the locus to the kidney as presumably at fault. Blood cells and shadows and later a genuine macroscopic hematuria were the substantial witnesses. Suggesting operation, the patient declined, the shock of the first having been sufficient to temporarily cure him of what he feared might become a habit.

A young neurasthenic, with all the stigmata to condemn him to the tender care of those specially interested, consulted me for an alleged uro-genital disorder. Some slight smarting, but no frequency was complained of. Careful inquiry failed to elicit the presence of a discharge, though it was assumed. Venereal history denied. Nothing abnormal in the urethra, epididymes, testes, cords or vesicles. The urine contained an excess of mucus and urethral epithelial elements and many oxalates. The first bacteriologic examination, made without the precautionary balanic and preputial ablution, revealed the presence of a pseudo-tubercle bacillus — smegma bacillus. This failed to appear, however, upon a subsequent perfected technique. The cystoscope failed to disclose anything abnormal, save an osteal ecchymosis about the right ureter, due to a previous catheterization. Yet, this case was condemned as tubercular. I might add that my negative finding was confirmed by several eminent specialists in this field.

A desire to impress patients with the importance of these preciser methods, coupled with a fondness for a vain display of the newer armamentarium, and an insufficient knowledge of its limitations, are the possible reasons for this error. It is needless to say that it meant the loss of no little reputation to the specialist.

A woman of forty-three, whose history was unimportant, save that she had been a parturient three or four times during twenty-odd years of her married life. The first delivery was normal, resulting in the birth of a daughter, her only living offspring. The second was coupled with some difficulties upon which I am not quite clear. The third, some nine or ten years ago, was a placenta previa requiring hurried version. This was followed by eclampsia, loss of the child, laceration and retroversion with slight prolapse. For this she was curetted. Later a trachelorraphy and an Alexander was done by an operator of national reputation. It might be added that, owing to the fetid discharge and menorrhagia, with the possibility of a final malignancy, the writer, wrongfully, as the sequel proved, suggested a hysterectomy, which was declined.

Some moths ago I was called to see her in consultation with a young surgeon of reputation, if not eminence, in a large Eastern city. She was then in hospital, awaiting my consent to a hysterectomy for a supposed myoma, if not malignancy. There was a history of irregular menstruation of some months' duration and gastric reflex disturbances. Despite the irregular molimen, there could be traced two distinct months of menstrual cessation. There was constant nausea, with vomiting after the ingestion of food and a pronounced ptyalism. A physical examination revealed an enlarged but soft uterus, slightly retrodeviated. The cervix, however, did not present the customary softness of pregnancy. This was probably due to the cicatricial hardening and narrowing of the canal, following the trachelorraphy. So strongly was I impressed with a belief in her pregnancy that I urged her immediate removal from the hospital. Since everything had been prepared for an operation, this wus reluctantly consented to, much to the disgust of the nurses and the disappointment of the surgeon.

I suggested the counsel of a distinguished internist, asking that an analysis of the gastric contents be made. This gentleman reported a hyperacidity, and gave it as his opinion that the stomach was reflexly disturbed, though he did not believe her to be pregnant.

Ten days after this I received another summons, the patiently urgently demanding relief. She scorned the idea of gestation, which view was approvingly shared by the surgeon. I emphasized my conviction to the contrary, submitting under protest, and thrust the responsibility upon patient and operator. They would not heed my counsel to await developments.

I had the pleasure of assisting in one of the most beautifully performed hysterectomies I have ever witnessed. The technique left nothing to be desired, so artistically was it done. Imagine my chagrin and the mortification of the operator when we discovered a three months' fetus in a healthy uterus.

Though the patient made an unevenful recovery, we were guilty of an avoidable feticide, and the mother deprived of a son, the possible hope and glory of her declining years.

These are only specimen copies of the recent past that could be duplicated almost *ad infinitum*. Nor does the writer claim that he has been entirely blameless. He, too, has fallen into the error that the knife is sometimes the only arbiter in the decision, but he does insist, never recklessly, pretentiously nor with the hope of a reward beyond his legitimate due,

The reasons for these almost inexcusable blunders are not far to seek. The physician and surgeon is no better nor worse than other workers in the hive. His efforts and character are the reflexes of his era and environment.

In the fierce struggle for existence, reputation, renown and recompense so engross attention that character becomes of either secondary importance or is altogether lost sight of. To achieve, to get there, is the motto, and the means are not always scrutinized with that care which integrity prompts.

Self-preservation is the first law of nature. A crowded profession and the necessity of a livelihood are the meager apologies for irregularities that are regarded as of slight importance.

The public admires the intuitive diagnostician. He is preferred to the conscientious plodder whose care and conservatism is often mistaken for ignorance. He who hesitates is lost. The patient is hurried off to the operating-room lest a more active competitor get the victim.

Since time permits only a synoptical review of the purpose of this paper, I can merely suggest that much of this unnecessary surgery is avoidable. Instead, we should avail ourselves of those analytical means at our disposal by painstaking care and search. It is not expected that every operating surgeon should be a Leonardo da Vinci or a Michael Angelo—a universal genius. Such men are rare, and one in a generation or two would about fill the measure of our expectancy. This, too, corresponds with an historical rule. Few men can be great operators and great surgeons as well, and when finally modest enough to acknowledge this, they will call to their aid those skilled where they are deficient, those willing to make a reconnaissance where they are booted and spurred, restless for action.

The internist who is gradually being crowded from his legitimate sphere of activity by the clacque and reclame of the machinery doctor, should be the collaborateur of the really skilled and conscientious operating surgeon, thus avoiding the snares and pitfalls into which the zealous too readily precipitate themselves.

Surgical trauma, even at the hands of the most skilled and where legitimately invoked, often results in shock, with subsequent neurasthenia, hysteria and a host of neuroses, as formidable as those induced by accident. The neurotic aftermath, often worse than the malady for which the surgeon intervened, may be months and years in disappearing. A sympathizing jury often indemnifies real or malingering neurasthenics when corporations are the defendants. What if they should take a turn at the surgeons? I once heard a colleague, in discussion, justifying exploratory laparotomy by comparing it with a paring of the finger nails. What influences must such utterances exercise upon those just entering a chosen profession?

To my mind, all operations undertaken hastily or recklessly and without thoroughly canvassing the reasons for or against, or without an approximately certain diagnosis, are inexcusable makeshifts, stigmatizing the profession. This is especially true if the conditions are chronic. To make them substitute performances, with a hope of gain, is damnable and little short of crime.

That explorations are often the only possible means of determining a condition not otherwise ascertainable, we all admit; but the number could be enormously reduced if we employ our heads as well as our hands; if we would but put brains into our fingers, eyes and other senses, and were not itching for something brilliant to edify a credulous public.

Assuming that in the two instances first cited the operations undertaken were in a sense exploratory—and this is one of the devices screening diagnostic ignorance—were they not only negative but positively harmful?

These explorations should, and often could, be ante-operative affairs. The means are at hand. Post mortem pathology has logically accounted for many clinical contradictions.

Is it not about time that we acknowledge our pretended indebtedness to the ante-mortem surgical findings that have contributed to the sum of our knowledge?

In this way only can we escape the charge of being human vivisectionists instead of surgeons.

THE TEAR-PASSAGES AND THEIR DISEASES.

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Tears contain only a few solids, chiefly common salt. They serve to moisten the conjunctiva of the lids and eyeballs, the mucous membrane of the tear-passages and the nose, and tend to wash foreign bodies from the eyeball or inner side of the lids to the inner corner of the eyesac, where they are comparatively harmless. Normally, nearly all the tears secreted are evaporated from the surface of the eyeball; a small quantity is contained in the tear-passages, and a very small amount passes into the nose. However, when the secretion of tears is increased by psychical states or local irritation, due to foreign bodies in the eye, cold or dusty winds, inflammation, etc., a large quantity is discharged into the nose, and any excess of this amount flows over the oily barrier (fatty secretion of the local glands on the edge of the lids), to the skin of the cheek, even though the tear-passages are normal. Whenever the tear-passages are obstructed for any reason, all the tears not evaporated, except the amount contained in these passages, must flow onto the cheek, and this quantity will necessarily vary according to the degree of obstruction of the passages and the amount secreted.

When the lids are closed the external canthal ends close first, the inner next, and the portion just beyond the puncta last. Any excess of tears unwilling to flow over the oily edge of the lid is forced toward the nose, and pressed by the water-tight closure of the lids into the puncta, through the canaliculi into the tear-sac. At the same time the tear-sac, whose anterior and upper wall is pulled forward and upward on closure of the lids by the internal ligament, dilates, and fairly sucks the tears into it. However, this view is now disputed by most authorities.

By some these organs have been compared to a syphon. When the tears are in the lacrymal sac they pass on into the nasal duct towards the nose, not only by reason of their own weight, and the onward pressure of those following as well as by capillary attraction, but also because the normal elasticity of the sac causes it to contract when once dilated. And, in addition, when the lids are opened the wall of the sac is pushed backward and downward by the internal palpebral ligament.

The tear-passages comprise, first, the puncta, minute openings in small elevations lying in contact with the surface of the eyeball, situated nearly opposite one another on the margins of the upper and the lower lids, about one-fourth inch from their inner end. Then from these the canaliculi run at first vertical, upward in the upper, downwar in the lower lid, for aboutd 2 mm., then bending at a slightly acute angle, pass through the edge of the lids for 5 or 6 mm., finally converging toward one another. They usually join before entering the tear-sac, which is situated in a groove in the lacrymal bone directly behind the internal ligament of the lids. The nasal duct arises from the lower end of the tear-sac, passes downward, slightly outward and backward, in the direction of a line drawn from the middle of the internal ligament of the lids to the furrow between the alæ of the nose and the cheek. Passing through the nasal mucous membrane below the inferior turbinated bone, it empties into the nose. Unlike the tear-sac, this duct lies completely within a bony canal. Its mucous membrane is composed of a single layer of cylindrical ciliated epithelium on a basement membrane, and contains numerous glands. It is separated from the periosteum covering the bone by a dense plexus of veins, spoken of as the compressible cavernous tissue. The nasal duct is narrowest at its upper extremity, and in places its mucous membrane forms folds, sometimes called valves.

The tear-sac is about 12 mm. long and projects about 2 or 3 mm. above the internal palpebral ligament. The nasal duct varies in length from 14 to 23 mm., and authors differ greatly as to its diameter, as it no doubt varies in different cases. The antero-posterior diameter of the tear-sac and duct is greater than the transverse.

In order that this tear-drainage system may properly perform its function, all its parts must be in a normal condition. The puncta must be properly directed and located and in contact with the globe of the eye. This is impossible if there is imperfect closure of the lids due to ectropium, paralysis of the seventh nerve, or to congenital or acquired contraction of the lids. The lids must not be everted, inverted or notched, as the sligtest malposition of the minute orifices has a tendency to produce a greater deformity. The tears, running over on the cheek, cause an eczema, with a tendency to draw the lids and puncta farther away from their normal position, and the attending conjunctivitis has a tendency to increase the inturning of the lids. If the drainage of the tears is not to be interrupted, the puncta and canaliculi must not be obstructed, the lacrymal sac must retain its elasticity, the nasal duct must not become obstructed by strictures or undue swelling of its mucous membrane. It is easily understood how many difficulties are encountered in the treatment of these diseases, and how unproductive of good results the treatment frequently is.

Congenital and acquired atresia of the puncta occur quite often. The latter condition results from trauma, caustic agents, blepharitis, severe conjunctivitis, smallpox pustule, chancre, or malposition of the parts. Double puncta or complete absence of the same, are rare congenital anomalies. Malposition of the puncta is a frequent condition, and is likely to grow worse if the conjunctivitis or other conditions causing it are not properly treated. Proper slitting of the canaliculi with a Weber's knife is nearly always indicated in these latter cases, and is necessary in the other conditions described when repeated dilatations of the puncta with a conical sound is insufficient.

The canaliculi may be absent, or merely

represented by grooves on the edge of the lids. They may be partially or wholly obstructed by polypi, foreign bodies, eyelashes, leptothrix, etc., or by strictures due to traumatism, etc. If repeated dilatations by probes does not relieve the condition, slitting of the outer two-thirds of the canaliculus, making the open groove look backward as much as possible, is indicated in these cases. This is accomplished under cocaine anesthesia by passing a fine canaliculus knife into the punctum, along the floor of the canaliculus (the lid being meanwhile stretched outward by the thumb of the other hand) until its end meets with firm resistance from the inner bony wall of the sac. If operating on the lower punctum, the handle of the knife should now be swept upward, while the cutting edge is directed upward and slightly backward, so as to make the groove lie as close to the eyeball as possible. A small probe must be passed along the groove for the next few days to prevent healing of the divided tissues.

Inflammation of the tear-sac (dacrocystitis) may be acute or chronic, simple catarrhal, or purulent, and is usually caused by obstruction of the nasal duct, such as swelling of its mucous membrane, organic stricture, or by some nasal disease. It occurs in children but rarely, when it is usually significant of inherited syphilis. If necrosed bone is associated with it in adults, it is presumptive evidence of acquired lues. Strangely, the inflammation is very rarely secondary to any disease of the eye or conjunctiva, no matter how severe. It is seldom of the acute form in the beginning. The chief symptoms are a persistent discharge of tears (epiphora) or muco-purulent secretion, slight redness and swelling at the inner corner of the eye, and later the appearance of a small tumor (lacrymal tumor or mucocele). The contents of the latter may or may not be pressed into the nose or out onto the free conjunctival surface.

The regurgitation of the contents of the tear-sac (usually abounding with micrococci, especially staphylococcus pyogenes aureus) into the eye-sac is a constant menace to its safety, for the slightest abrasion of the cornea, harmless under other conditions, may be sufficient for a disastrous infection to occur. Operations on the eyeball under these conditions are made with great risk, even after having taken the most careful precautions. These dangers, coupled with the great annoyance given to the patient by the persistent lacrymation and discharge, demand early and careful treatment of the underlying causes, *i.e.*, of the obstruction of the nasal duct or nasal disease.

If proper treatment is not resorted to, and the condition persists, recurrent attacks of inflammation are prone to occur. Instead of the inflammation being confined to the mucous membrane, as formerly, it extends to the surrounding connective tissue, some germs having found an exit from the sac through a small abrasion of the mucous membrane. There is swelling and redness in the region of the sac, with intense pain, tenderness to pressure, and constitutional symptoms when the inflammation is at its height. If seen early, cold applications—small ice-bags or ice-cloths—at regular intervals, the use of cathartics and frequent expulsion of the contents of the sac by the finger are of great service. Antiseptic drops, *e.g.*, a 10 to 20 per cent. protargol, or, better, a 15 to 25 per cent. argyrol, solution should be dropped in the inner corner of the eye every two or three hours. If the finger is pressed over the eye-sac and removed just after the instillation of the drops, they may often be drawn into the sac. Or one can instill one or two drops of the fluid into the inner corner of the eye, while the patient is in a recumbent position, and then make alternate pressure and relaxation by means of the tip of the finger. The drops may sometimes be forced into the nose by this method. If these measures fail to allay the inflammation, and considerable pressure is necessary to expel the thick creamy discharge, or too much pain is caused by these attempts, then heat, preferably dry, should be applied at regular intervals, and an incision made into the sac as soon as pus is thought to be present. It should be made deeply, downward and outward, immediately below the internal palpebral ligament. If permitted to follow its own course, the skin over the abscess breaks down, and the contents are discharged through the opening made. A fistula often remains to mark its location, but can be closed by cauterization, after proper treatment of the nasal duct and removal of the underlying cause. Some pass probes in these acute cases, if it does not cause too much pain, but the writer questions the wisdom of this procedure.

If the tear-sac loses its normal elasticity (atony of the sac) the proper drainage of tears is unlikely to take place, but, as mentioned before, this latter condition is usually due to obstruction in the nasal duct, following acute or chronic nasal disease, especially syphilitic. It is also the result of improper cauterization of the inferior turbinal bones. Obstructions in this duct consisting of bony or membranous strictures, or congestions of the mucous membrane, are usually situated at its upper or lower end.

Any diseased condition in the nose must be properly treated, as otherwise it is often impossible to permanently give relief to these cases. Local inflammations or obstructions about the lower end of the duct should be relieved, and general treatment given when necessary. The contents of the tear-sac should be frequently expressed; astringent and antiseptic eye washes, *e.g.*, sulphate of zinc, boric acid or argyrol solutions, should be employed as described above. If the obstruction is due only to swelling of the mucous membrane, these measures will usually suffice for a cure, and should be given a fair trial in nearly all cases. Syringing the sac and duct with a weak astringent solution is also of great service. It may be done by means of any of the syringes on the market, being careful, however, not to employ too much force, or by the use of one of the writer's lacrymal douche tubes through the normal or dilated punctum. It is not usually easy of accomplishment until after dilatation or slitting of the canaliculus, which should usually be done, and is necessary before probes can be properly used.

Some surgeons employ only small probes 3 mm. in diameter and less. The writer believes the use of these sizes, in conjunction with other treatment, to be all that is required in simple congestion of the mucous membrane. But in many cases he considers them as totally inadequate. Furthermore, he thinks *very small probes* are often more apt to wound and tear the mucous membrane and injure the periosteum, and thus cause necrosis, than are medium-sized ones.

After the use of two or three drops of a cocaine or holocaine solution, followed by one or two drops of a 10 per cent. solution of adrenalin, the probe should be passed horizontally into the canaliculus, until the end meets with firm bony resistance (the lid must meanwhile be stretched outward); it should then be brought to the perpendicular, and be very gently pushed down into the duct. Larger and larger probes should be used every second or third day, and left in the duct about fifteen minutes at each treatment. Syringing with solutions of boric acid, sulphate of zinc, or sodium salicylate should still be persisted in. The probe may be passed at varying intervals as the case improves.

In some cases, especially if the patient lives at a distance, or is very intolerant of pain, the writer prefers rapid dilatation by using fairly large probes under a general anesthetic. The largest-sized probes used should differ in different cases, as the diameter of the distended nasal ducts varies in different individuals. The amount of force required to pass the probe will indicate the limit in size. A No. 10 Theobald's probe will distend some ducts as well as No. 16 will others. It is undoubtedly harmful to use probes so large as to bruise the mucous membrane and injure the periosteum; however, the writer feels that the large probes are of great service when the size is properly regulated according to the case under treatment. The writer has recently had some probes made the same as Theobald's in every way, excepting that the antero-posterior diameter is greater than the transverse, corresponding in this respect to the shape of the nasal duct. Frequently after passing the large probes under an anesthetic it is necessary to pass smaller ones, Nos. 3, 4 or 5, for a few times before the passages can be properly syringed. When it is possible to syringe the duct freely, without first passing the probes, it will only be necessary to use them at long intervals, *i.e.*, whenever the syringing cannot be easily accomplished without their use. The writer has sometimes observed after long use of lacrymal probes that syringing fluid through the passages was difficult or impossible even after having passed the probes successfully. In nearly all these cases, after removal of the anterior end of the inferior turbinal bone, he has found granulation tissue around the lower end of the nasal duct. The proper removal of this tissue, with subsequent mild local treatment and syringing, always proved beneficial. The writer thinks that after long-continued probing, granulation tissue forms and inflammations arise around the lower end of the nasal duct. These are no doubt due to the repeated traumatisms inflicted by the probes. Inspection and the proper treatment of the nasal end of the duct is obligatory when probes have been passed for any length of time.

To prevent closure of the duct it is often wise to introduce hollow silver styles, which can be left in place for weeks and even months without the slightest discomfort to the patient. They frequently relieve the epiphora.

In infants the use of simple palliative measures should be tried first, *e.g.*, the use of astringent solutions and expression of the contents of the sac. If these fail, they nearly always recover after the passage of moderate-sized probes under a general anesthetic. Usually one passage of the probe is sufficient.

Where the stricture is bony, the use of probes is usually of little use, and the removal of the lacrymal gland or sac or both is required. De Wecker removes the little lobules and the emissary ducts from both the main and the accessory gland. The conjunctiva is not moistened by the lacrymal gland only, but also by its own glands (glands of Kraus and Waldeyer), so that when the lacrymal gland is removed the conjunctiva is still kept moist and in a healthy condition.

In the opinion of the writer, the lacrymal sac should be removed more frequently than is customary at present. In the operation the mucous gland must be either totally removed or else destroyed by the cautery, for if the slightest amount is left it will continue to secrete mucus. Usually after removal or destruction of the lacrymal sac the tears give very little annoyance, and are noticed only when in cold winds, dusty, smoky air, or when inflammations of the eye are present. The lacrymal gland seems to lose some of its desire to secrete more than enough tears to help moisten the conjunctiva.

There are two things that have been too often neglected in the treatment of these cases when an over-indulgence in the use of probes has been resorted to: First, the proper syringing and douching of the lacrymal apparatus, to which attention has been drawn; secondly, the use of electrolysis. The negative pole should be attached to the inserted lacrymal probe, the positive pole to a wet sponge applied to the cheek, or back of the neck, and from three to five milliamperes should be allowed to pass for five minutes or longer. This method of treating organic strictures should be given more trial than has been hitherto accorded it. The writer has witnessed its beneficial effects, and believes it will be more generally used in the future than it has been in the past.

REFERENCES.

1. Schirmer, O. Physiology and Pathology of the Secretion and the Removal of the Tears (extended bibliography appended), Graefe's Arch. f. Ophthal., 56, 2.

2. Risley, S. D. The Conservative Treatment of Affections of the Lacrimal Apparatus, Trans. American Medical Association, Ophthal. Sec., 1904.

3. Suker, George F. A Criticism on the Use and Abuse of the Lacrimal Probe, American Journal Ophthal., Vol. xxi, No. 9, p. 277, 1904.

4. Berard, Angouleme. The Abuse of Catheterization in Simple Dacryocystitis, Clin. Ophthal., July 10, 1904.

5. Mial, L. L. Electrolysis in the Treatment of Stricture of the Lacrimal Passage, N. Y. Medical Journal, 1900, Vol. 72, pp. 667 669.

A CASE OF TUBERCULOSIS WITH SOME UNUSUAL POINTS OF INTEREST.

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C. J., white, male, aged thirty-two, sanguine temperament, was admitted to the Flower Mission Hospital for Incurables April 13, 1904. The history shows that his father died of rheumatism, aged seventy-three; mother still living, aged seventy-two. One sister died of measles during childhood and there are five adults now living. Patient had driven a delivery wagon as an occupation and had had no sickness since childhood until February, 1903, when he was suddenly taken with a pain near the left nipple, which was unusually severe for several days and was pronounced acute pleuritis by a physician.

From this time until August, 1903, he was confined to his bed with history of cough, muco-purulent expectoration, exhaustion and loss of flesh. The patient had been vaccinated February 1, 1903, and although the arm showed a typical course and was well in thirty days, yet patient and physician attributed his sickness to vaccination. During August and a part of September the patient was greatly improved and was able to take outdoor exercise, but during the latter part of September was again confined to bed with symptoms similar to those heretofore enumerated.

When the patient was admitted to the hospital, April 13, 1904, physical examination of the chest and attending symptoms indicated tuberculosis, and an examination of the sputum a few days later showed tubercle bacilli. The left knee was ankylosed and the terminal joints of the fingers were bulbous, and patient said the condition of the fingers was present July 1, 1903. These joints resembled pulmonary osteoarthroapy. The patient was ordered to remain out of doors on a reclining chair four hours each day; one-half ounce of whisky was given four times a day; guaiacol carbonate three grains three times a day and increased until physiological action was noticed; for the cough, heroin, one-tenth grain *pro-re-nata.*

A hysterical neurosis existed, and one of his peculiar manifestations was the violent contraction of a large muscle which would soon extend to others and frequently terminate by an unconscious condition of the patient. These occurred twice a week, and after the administration of aromatic spirits of ammonia, two drachms diluted in a wineglassful of water, together with a hypodermic injection of nitroglycerine, one-hundredth grain, was promptly relieved, so that in June there was but one attack of this character. However, we must bear in mind that there had been a general improvement in the patient. The diet was of a nutritious character.

On April 13 the temperature was 98°, pulse 86, respiration 22. Until May 5 the maximum temperature was 101°, pulse 100, respiration 28, and between 7 and 8 A.M. the temperature 96° or 97°. After May 5 the temperature was subnormal at no time, and generally had a range from 98° to 99°, pulse from 80 to 100 and respiration 16 to 30.

There are splendid opportunities to carry out the fresh air method of treatment, and good results were noticeable in this case. There was a steady gain in the weight of the patient until July, 1904, and at times the examinations of the sputum were negative. With this in view there seemed for a time to be some encouragement for a permanent betterment of his condition. However, a month later, a decline became rapid, and a month since he died from general anemia, although tuberculosis was the remote cause.

The neurotic condition is a point of interest, and its violence was unusually emphasized, and this condition of hysteria in the male as a complication was the most pronounced I have ever observed. A point of interest which might be mentioned is the fact that a large portion of the community in which he lived firmly believed that vaccination was the direct cause of disability, and he being prominently known and a member of several secret orders, his case had been given as an example by anti-vaccinationists to further their argument against vaccination. The patient seemed surprised when I said to him that vaccination was not even a contributory cause, and I am mindful of the fact that false argument is oftentimes founded on such flimsy foundation.

Foreign Body in the Ear for Twenty-seven Years.

J. J. Richardson, Washington (*American Medicine*, September 24, 1904), reports the removal from the external auditory canal of a man, aged thirty-two years, of a pearl button which the patient's mother recognized as of the kind she had used on his clothing before he was five years of age. As his hearing had been impaired since he was a child, and as he had frequently suffered from impaction of cerumen, it is fair to conclude that the button had been in the ear for twenty-seven years. There were no pathological changes of moment and the hearing was completely recovered. C. R. H.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, JANUARY 7, 1905.

1905.

A happy new year to every reader of THE LANCET-CLINIC is devoutly wished.

The outlook in the world of business never was so bright and auspicious in an augury of prosperity as at the present time. As has been repeatedly stated in these pages, no man can live for himself and for himself alone. To do so means the life of a hermit and worse; so, as the years go by, specialties in every occupation spring up and thrive, each in turn becoming a rival or competitor of the other. Business of every nature is crowding as never before, and profits are correspondingly fair or great. Every time inquiry is made manufacturers and merchants tell the same story of there being a greater and more persistent demand for a better grade of goods. This demand extends to all professions. Better clergymen, more skillful doctors and learned lawyers are wanted than ever before in the world's history. All of which means study, labor and intelligent industry. Laggards have no place in the machinery and make-up of place in the twentieth century. This is pre-eminently the young man's century, only one thing being required, and that is that he shall have a special training for the place sought.

There never were such excellent writers as at the present time. The man who aspires to a place in print must first know his subject and know it thoroughly, and be able to tell it tersely. Space writing in scientific publications has had its day, and that day will never return. Training has accomplished its mission in this particular, and to train means to work. Intensity of labor should be always followed by a corresponding rest and relaxation.

The world do move. THE LANCET-CLINIC is in accord and keeping step with every advance and improvement that is being made in the realm of medical science. The patrons of THE LANCET-CLINIC may look forward to the publication of a better journal than ever before, and there is a reasonable assurance that betterments will be made, which will largely be in accord with the financial support accorded the publication. Several new and untried ways have been entered upon during the past year. These ways will succeed beyond a peraventure, and largely consist in a unification of a goodly number of independent medical organizations. This movement is not for a purpose of personal antagonism of any other association, but rather for a stimulation in good work. A result will indicate the merit of the various factors involved, and on merit alone THE LANCET-CLINIC is and will be a more or less lively competitor.

THE LANCET-CLINIC, 1905—RENEWALS —A READER.

Now is the time to renew your allegiance to THE LANCET-CLINIC by a remittance of your subscription, and you can show additional interest by inducing one or more physicians to add their names to the subscription list.

There is no more truly representative medical journal published than THE LANCET-CLINIC. It is a publication that is alike useful to the general practitioner and specialist. THE LANCET-CLINIC is emphatically a medical journal for medical society men, and with a single exception is read by more such men than any other publication, and aspires to a first place. The attainment of this desirable position rests entirely with those who are subscribers and see a necessity for a reputable medical journal that stands for independence in all things that are ethical in medicine.

Never before has there been such a pressure for space in THE LANCET-CLINIC as at the present time. The journal is under engagement to publish the transactions of the Mississippi Valley Medical Association, the Ohio Valley Medical Association, and the Cincinnati Academy of Medicine, and get them all out within a limited time. Such agreements will all be kept.

Association society subscribers will do well and build for themselves a truly great publication, greater by far than they now have, by seeing to it that their professional neighbors and friends, one and all, are subscribers for THE LANCET-CLINIC. These societies, in the language of financiers, have literally taken over and underwritten this journal, so that THE LANCET-CLINIC to-day occupies a position that is absolutely unique among serial publications.

It is a law of nature for the strong to grow stronger, which holds as true of medical journals as of any other business. Regrets are always felt when any one feels a necessity for discontinuance by stress of circumstances over which they have little or no control, and to such a word of sympathy is always felt. They are, and always will be, missed, but there is a corresponding gratification in making a record of new names. The present is an active season with all business enterprises. Medical journalism is a business that demands a never-ending attention, or cogs will be slipped. The man who surmises that it is an easy trick that will conduct or run itself if only set in motion, to say the very least is not well informed.

The current year is very auspicious in its opening. THE LANCET-CLINIC is out for a doubling of its present long list of subscribers. This can be accomplished, and it is thought that it will be done and much more. Every man to his individual tent or office and give ten minutes to the writing of a little letter to two, three or a dozen doctors that he knows, commending THE LANCET-CLINIC as a worthy weekly medical journal, will do much to accomplish the purpose that is so desirable.

As stated, THE LANCET-CLINIC is unique in its character in having the solid support of many of the most prominent medical societies in this country, one of which, the Mississippi Valley Association, is national in its domain.

The greatest of all things in a medical journal is its circulation, and every new name is a new tie in and to the journal. New names are not only wanted, but are greatly desired. The plan suggested will swell our list several thousand. Remember that this is the only journal that is literally underwritten by a combination of strong medical societies, and endorsed by all of the members of these large independent organizations.

An appeal is now made to the members of these societies to come to the front with from one to a dozen or more new members and the work will be done. You have underwritten and endorsed a journal, and by so doing made it your own, and right now your financial support is desired through a personal solicitation of new subscribers. No danger of swamping with new names. Send them in to the publisher.

HOSPITAL DEFICITS.

As was hinted in our issue of last week, it seems extremely likely that the Presbyterian Hospital, of Cincinnati, will be able to continue in its good work. The friends of the hospital have rallied to its support, and Mr. McDonald has offered to pay the deficit of $6,000 and contribute $1,500 more towards the running expenses of the current year. From five other sources $1,000 each for five years has been pledged, and there are rumors of a large endowment fund which will place the institution upon a secure footing.

In this connection it might be well to call attention to the problems and embarrassments that are confronting sectarian hospitals in New York City. A year ago Mr. Frank Tucker, Vice President of the Provident Loan Society, undertook to investigate the conditions and needs of these hospitals, and his report has just been published.[1] These institutions, some twenty in number, he finds, are running at an aggregate annual deficit of nearly $500,000, of which the Presbyterian Hospital of New York furnishes over $70,000. Mr. Tucker states:

> "Unless the public conscience is quickened, and larger means for current expenses are provided, the hospital system of New York must at some date not long distant be changed. It seems that, except for such provision, public hospitals under municipal management, supported by taxation, must in great part take the place of our present hospitals, which are private only in the sense that they were founded and have been supported by private benevolence and are under the direction of managers recruited by natural selection from our best citizens, and not subject, as is too often the case with municipal hospitals, to political change or popular caprice.

This statement presents food for reflection, and brings up the question which has been so often discussed before: Would it be an unmixed evil if the deficit of private, so-called sectarian hospitals, would become so great as to compel them to close their doors for an indefinite period? There can be no doubt that not a few have harbored, even encouraged, evils that have been to the advantage of the few as against the best interests of the profession as a body.

This report of Mr. Tucker's shows that deficits in hospital management is the rule rather than the exception, and he suggests, as has been done in our own city, that a large endowment fund be raised by public subscription. Whether this is practicable in New York or not—$10,000,000 is the sum asked—there is no question but that by energetic effort a sum could be raised by the Presbyterian Church of Ohio, Kentucky and Indiana that would place their hospital in Cincinnati beyond the reach of want.

THE JAPANESE MEDICAL CORPS—A COMPARISON IN EFFICIENCY.

The message of President Roosevelt, suggesting improvement and increase in the medical corps of the army and navy, has been followed by a much more emphatic comment by a regular officer of the service.[1] Indeed, the latter's book in its praise of the medical department of the Japanese is a severe, and, it must be confessed, just arraignment of similar corps of the other great powers. While the book is filled with topics of timely and historic interest, as physicians we are most interested in the statements upon matters medical, and Major Seaman's vast experience has made any observations to which he may commit himself almost authoritative.

While sanitarians of all nations have preached for years that the great enemy of armies in the field is not powder and ball, but a foe far more treacherous and deadly, preventable disease, every great war, ancient and modern, up to the present heroic struggle in the east, has been accompanied by a mortality from these affections that must be admitted as a disgrace to our much-vaunted progress in our art. To Japan, which, until a few years ago, was regarded as a country semi-civilized, must be awarded the honor of placing the important yet simple truths of sanitary science upon a practical footing. Let it be emphasized to the shame of so-called more enlightened nations that the Japanese medical officers have contributed no new fact to hygiene; they have merely carried out with painstaking detail that knowledge of the subject that has been the property of every other civilized country. They have grasped the fact that the complement of an army can be kept to standard and even enhanced in value, not by the constant addition of the raw recruit, but by keeping in perfect health the seasoned veteran. More to the purpose, and this is in many respects the crus of the entire problem, the medical officer reigns supreme, unhampered by the unscientific and often ridiculous objections of the officers of the line. He is almost omnipresent, as often far to the front of the line of battle as in the rear, testing and labeling wells so that the troops following him may drink no contaminated water. Every division headquarters is equipped with a complete bacteriological outfit, with experts in charge. Every foraging party is accompanied by a medical officer, whose duty it is to inspect and analyze all samples of food sold by natives or taken from the enemy. What has been the result of these precautions? "The loss from preventable disease in the first six months of the terrible conflict with Russia will be but a fraction of 1 per cent., this, too, in Manchuria, a country notoriously unsanitary. Compare this with the fearful losses of the British from preventable disease in South Africa, or, worse, with our own losses in the Spanish-American war, where in a campaign the actual hostilities of which lasted six weeks the mortality from bullets and wounds was 268, while that from disease reached the appalling number of 3,862, or about 14 to 1."

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[1] Charities, December, 1904.

[1] Major L. L. Seaman, "From Tokio Through Manchuria."

In speaking of our government, Major Seaman has this to say:

> "What can be expected of a government that, after its terrible lessons of 1898–'99, still insists—especially in the tropics—on subsisting its army on a ration so rich and "elastic" that when in the emergency of war its elasticity is tested, it bursts its bands, and is found to consist of pork and beans and fermenting canned rubbish that in six weeks prostrates 50 per cent. of its 250,000 units with intestinal diseases, and sends 3,000 to their last home, to say nothing of the enormous number invalided and the 70,000 pension claimants? What can be expected from a Congress so devoid of business principles that it prefers pensions to prevention; that permits a lot of well-meaning but misguided fanatical women to degrade its army by depriving it of one of its most beneficial features, a well-regulated canteen, the outgrowth of the best thought and experience of able, trusted officers, thereby driving its fighting units to low groggeries and brothels, from which they are frequently brought back by the patrol, candidates for the guard-house or wards of the hospital, or both? Why, I ask again, should we expect reforms from authorities who, in their great preparatory schools, West Point and Annapolis, furnish the cadets no instruction in the important studies of physiology and hygiene, so that when they come to command the fighting units of the army, they can be prepared to guard them against the silent foe which scores 80 per cent. of the deaths!"

Major Seaman is to be congratulated upon the bravery he has displayed in daring to attack the established order of things, an undertaking which from time immemorial has only succeeded in bringing down abuse and disgrace upon the critic's devoted head. He should be sustained by the medical and lay press, by medical societies and the profession generally, for it is only by such endorsement that he can be upheld, and the state of affairs he has so strongly condemned speedily rectified.

If war is inevitable—and all but dreamers must recognize that it is, as long as individuals and nations are ruled by prejudice and ambition—let the soldier meet his fate as a brave man should, upon the field, and not sacrified by some loathsome disease engendered by ignorance and stupidity.

EDITORIAL NOTES.

Dr. A. G. Drury recently read a paper before the American Folk-Lore Society, Cincinnati Branch, entitled "Legends of the Apple."

Dr. Earl H. Bruns, Contract Surgeon United States Army, who is stationed at the Army Medical School at Washington, has been visiting friends in Cincinnati.

Academy of Medicine. — Monday evening, January 9, Dr. Charles N. Dabney, President of the University of Cincinnati, will read a paper on "Medical Education."

The Executive Committe of the Ohio Valley Medical Association has selected Henderson, Ky., as the place of the next annual meeting, which will take place November 8 and 9, 1905. The President, Dr. J. W. Stone, will soon announce the standing committees.

Report of the Bureau of Infectious and Contagious Diseases for the week ending December 30, 1904:

Disease.	Cases.	Deaths.
Measles	3	0
Diphtheria	12	1
Scarlet Fever	11	0
Typhoid Fever	25	7

The annual report of the Health Office shows that the number of deaths in Cincinnati during 1904 was 6,975, as against 6,201 for 1903, an increase of 774. The greatest mortality occurred in January, February and March. The number of patients visited by the city physicians during 1904 was 6,250, with a total number of visits of 12,486, as against 6,360 patients and 14,698 visits for 1903.

Dr. Otis Cameron formally assumed the office of Coroner of Hamilton County last Monday. Dr. Oliver Coe has been selected for the position of Deputy Coroner. The selection is a most wise one, as Dr. Coe is well and favorably remembered for his good work as interne and afterward receiving physician to the Cincinnati Hospital.

The report of Dr. Walter B. Weaver, who has just finished his second and last term as Corner of Hamilton County, shows that his office has handled the largest number of cases in its history, a total of 823 for the year. These cases were divided as follows: Homicides, 37; suicides, 103; manner of suicide, by morphine, 6; by carbolic acid, 25, a marked falling off from the previous year; by laudanum, 3; by cutting throat, 7; by shooting, 25; by hanging, 14, an increase; by falling in front of train, 1; by drowning, 6; by Paris green, 8; jumping from bridge, 1; jumping from window, 1; by prussic acid, 1; by undetermined poison, 1. Accidents, 334. Nature of accidents: Killed by steam railroad, 82; by electric railroad, 28. This is the smallest number of fatalities by electric railroad for a number of terms. Natural deaths, 334. Alcoholism, 15, showing an increase over former reports. Total number of native born, 585; foreign born, 219; undertermined, 19, an excess of native born over foreign born and undertermined cases of 366. During Dr. Weaver's first term, 1903, the homicides were 39; suicides, 95; street-car cases, 42; steam car, 89; natural deaths, 303; miscellaneous accidents, 223.

The Lancet-Clinic wishes to take this opportunity of paying tribute to Dr. Weaver for the magnificent work that he has performed during his term of office.

His opinions have always been read with interest and respect, and invariably when there has been any controversy between his department and other city officials he has sustained his position. His decisions have been rendered with justice and strict common sense, a virtue most rare in these days, and he is entitled to the more praise in that he succeeded a man in the difficult office of coroner who was generally regarded up to that time as without a peer. It is understood that Dr. Weaver has left for California on a little trip for pleasure and recuperation, whence it is hoped he will return greatly benefited and well able to attend to the cares of private practice.

"THE ANNALS OF SURGERY"—1885-1904.—The magnificent December number of this popular journal, numbering over 250 pages and containing contributions from many of the leading surgeons of the world, brings to completion twenty years of brilliant work under the same editorial management. This journal has occupied a somewhat solitary field in the world of American medical journalism, for while there have been magazines on special branches of surgical art, *Annals of Surgery* has practically been without a rival in this department of general surgery. These past twenty years have almost completely revolutionized the practice of surgery, not alone in the wider field attempted and the perfection of technique, but in the important fact that great skill in surgery is not now confined to a few great men in the large centres of population. And this dissemination of knowledge can be in very large part ascribed to the *Annals*, to the editors of which we wish as wide a field of usefulness in the future as they have enjoyed in the past.

Society Proceedings.

THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, November 8, 1904.

THE PRESIDENT, RICHARD C. NORRIS, M.D., IN THE CHAIR.

The Therapeutic Value of Ergot in Labor.

DR. J. C. APPLEGATE: The author of this paper does not regard ergot a safe or appropriate remedy for uterine inertia, as set forth in many text books on therapeutics, nor for any condition during labor until the presentation of expulsion of the placenta. Its physiological effects on the uterus are specific and unlike the rhythmical labor pains, in that they are less intermitting, more continuous, predisposing to constriction, particularly of the lower segment. Prematurely administered, the attending dangers are: Rupture of the uterus, asphyxiation of the child or paralysis of the fetal heart from compression, retention of the placenta and membranes. It is better to complete the dilatation manually. If other remedies fail, deliver instrumentally and express the placenta after the Crede method, which is rarely followed by complication of the third stage or post-partum hemorrhage.

Ergot is indicated as a safeguard after delayed labor or when inertia has been a factor, after placenta previa and reposition of the inverted uterus. The method of administration may be by the mouth when indicated for the prevention of hemorrhage, but should be administered hypodermatically for the control of hemorrhage. For the sole purpose of preventing septic infection, in the judgment of the author, it is practically of no value. The labor conducted aseptically, it is not indicated; if septically, and the uterus normally contracts under the influence of compression, the too complete locking within the uterus of blood and excreta intended to be liberated, the further contraction of the muscles and arterioles and dilatation of the veins under the influence of ergot, rather favors the absorption of septic material.

DR. ROLAND G. CURTIN: I always used ergot as Dr. Applegate recommends when I attended labor cases and I think his advice very good indeed. Most of the ergot I have given of late has been for other hemorrhages than those of the uterus, I feel that it is efficient even in those, though many people say it is not good therapeutics to give it except in hemorrhage connected with the uterus. I wrote an article some time ago on hemorrhages in typhoid fever, and gave ergot as one of the remedies. A journal criticized me very severely, and said that they were surprised that I did not know more about the action of ergot. Nevertheless, in cases where there is a general oozing from the mucous membrane, I think it does good. Feeding a cock with spurred rye will cause first a dark hue to the comb, and if continued longer the comb may die, is a statement made by writers in the past. I believe that the teaching of this paper will have a good effect, and I am sure will do good in some directions where it is needed.

DR. DANIEL LONGAKER: As far as I can gather I agree with the position taken by the author of the paper. I can say in a practical way that several of the most difficult cases of extraction of the placenta that I have seen were cases in which ergot had been given largely. In one it was impossible to extract the placenta until ether was given, though there were no placental adhesions. I know of two women in a certain section of the city, within three squares of each other, who in a comparatively short time died of postpartum hemorrhage after they were left by their physicians. One of the cases was moribund when I arrived. The other one was dead when the physician was recalled a few hours after the delivery of the child. In neither of these cases had ergot been used. I am inclined to think that the routine complete emptying of the uterus and the administration of ergot would prevent calamities of this kind.

DR. WILLIAM R. NICHOLSON: I fully agree with the remarks of Dr. Hopkinson. I think it is Zweifel who has recently advocated, immediately after the delivery of a case, that the transverse position across the bed be assumed and that the vagina be cleansed of all clots of blood. He claims that his morbidity is greatly diminished by that procedure. This would seem to many of us too radical a stand, but it seems to me that ergot. instead of increasing the chances of infection, has the opposite effect, and offers us the means of cleansing the uterine cavity in a way not possible by any other means, thus indirectly fulfilling Zweifel's intent. I remember a man from up the State, a physician with a large obstetrical practice, who told me a few months ago that it was his practice to give a hot uterine douche after every delivery. He *never allowed his assistants* to do it, but he claimed that he got better involution by this means than would otherwise obtain. I think ergot is a prophylactic against sepsis, and that it is an extremely valuable drug.

DR. APPLEGATE: I have practically nothing to add to the statements set forth in my paper. I quite agree with the gentlemen in that ergot may be of great advantage as a preventative against septic infection when there is profuse bleeding or other evidence of a relaxed condition of the uterus. On the other hand, with the uterus normally contracted and safeguarded by the formation of venous thrombi, I am still of the opinion that ergot has the characteristic of locking the secretions, dilating the veins and thus aiding in the absorption of septic material.

THE SECOND COUNCILOR DISTRICT SOCIETY.

The first annual meeting of the Second Councilor District of the Ohio State Medical Association met at the Hotel Beckel, Dayton, November 17, 1904. Dr. D. R. Silver, of Sidney, was elected President; Dr. F. P. Anzinger, of Springfield, Secretary and Treasurer. A committee was appointed to arrange for permanent organization and to select place of next meeting.

Dr. J. S. Beck, of Dayton, presented a set of resolutions and moved their adoption. Carried.

Public attention having been directed to the management and conduct of the Ohio Hospital for Epileptics, at Gallipolis, Ohio, by the public press of the State; and the professional ability, honor and integrity of the superintendent of that institution, Dr. A. P. Ohlmacher, having been assailed and grossly reflected upon, be it

Resolved, That the Second District Medical Society of Ohio, in convention assembled in the city of Dayton, this 17th day of November, 1904, hereby declares its confidence in the honesty and integrity of Dr. Ohlmacher, and testifies to his high professional attainments and his especial and most fitting qualifications for the peculiar position which he now occupies as superintendent of the Ohio Epileptic Hospital.

Resolved, That we hereby declare our most positive disapproval of any and all political interference in the management of the benevolent and medical institutions of the State, such interference always tending to embarrass the governing bodies and executive heads of these institutions in the honest and most effective discharge of their official duties. And be it further

Resolved, That the Secretary of this society is hereby instructed to forward a copy of these resolutions to Governor Myron T. Herrick, and to the Board of Trustees of the Ohio Hospital for Epileptics, and that they are most respectfully requested to investigate carefully as to the animus of this attack upon and the charges against Dr. A. P. Olmacher.

Dr. R. H. Grube, of Xenia, read a paper on "Neurasthenia." Discussion was opened by Dr. F. C. Gray, of Dayton, followed by Drs. A. Boone, B. F. Beebe, B. R. McClellan, D. G. Reilly and H. F. Lorimer.

Dr. C. A. L. Reed gave an address on "National Medical Legislation."

After adjournment dinner took place. Dr. W. J. Conklin served as Toastmaster. "After Dinner Talks" were given by Drs. J. E. Sylvester, F. D. Bain, H. Bonner, B. F. Beebe and C. A. L. Reed.

The component societies were well represented, and in all the first meeting of the Second Councilor District was a success, and the Councilor, Dr. H. Bonner, of Dayton, deserves much credit for bringing this about.

F. P. Anzinger,
Secretary.

Ophthalmology.

D. T. VAIL, M.D.

Double Radial Rupture of the Iris.

Dr. S. C. Ayres, in a paper read before the Section on Ophthalmology of the American Medical Association, at its fifty-fifth annual session (*Journal American Medical Association*, December 31, 1904), reports a case as follows:

This case of double radial rupture of the iris is very remarkable and, so far as I have consulted the literature on the subject, there is only one which corresponds to it. In that case, which occurred in the practice of Dr. Bünger,[1] in 1821, the left eye was struck by a chain, causing an artificial pupil which could be distinguished from one made by an operation, only by a band of iris remaining at the ciliary margin. At first, sight was very much impaired, probably from intraocular hemorrhage, but perfect vision was finally regained.

My case is as follows:

History.—G. H., aged ten, was first examined November 12, 1902, and gave the following account of the accident: He was struck by a BB shot from an air-gun at a distance of about five feet. The shot struck the edge of the lower lid of the left eye at about its anterior third. It embedded itself in the bulbs of the ciliæ and almost passed through. It was removed at home by squeezing the lid, when it dropped out. I saw the boy five days later and foud a well-defined coloboma of the iris as clean and sharply cut as if it had been done by an expert. It was about 4 mm. in width. There was no blood in the anterior chamber, and only a moderate injection of the conjunctiva. Lying in the coloboma was a mass of iris tissue. It was entirely separated from the iris on both sides as well as from its ciliary attachment (Fig. 1). The lens was opaque and vision was reduced to perception of light, probably on account of intraocular hemorrhage. Tension was normal and the eye not painful. In my judgment the posterior lens capsule was ruptured, as there was no evidence of soft lens substance in the anterior chamber at any time. Atropine was ordered.

In the course of time the edges of the coloboma gradually approached each other and the upper and inner portions of the iris drew up, leaving a long slit-like scar marked by a gray line of cicatricial tissue (Fig. 2). The iris mass shriveled up and disappeared under the approaching edges of the iris. In three months he was able to count fingers at one foot and at the end of a year could count fingers at three feet. The iris at the end of the scar responds to light and probably an iridectomy made at that point would restore useful vision.

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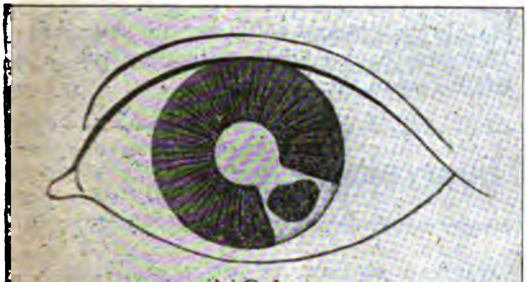
[1] Graefe and Walthers: Jour. d. Chir. und Augenheilk., vol. ii, p. 669.

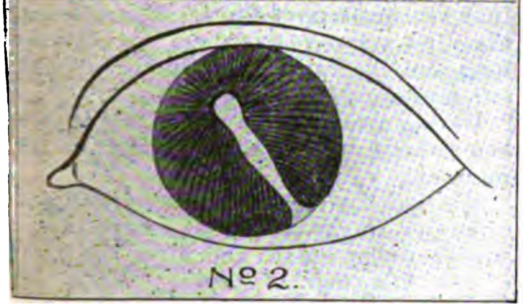
I shall not attempt a review of the literature on this subject, but will only refer to the various papers which have been written.

Dr. E. Franke[2] reports thirteen cases of rupture of the sphincter iridis, including an original one in his own practice. He discusses the mechanism of rupture of the choroid, and gives the opinion of some of the most eminent men on that subject.

Prof. L. Weiss and Dr. W. Klingelhoeffer[3] collected thirty-one cases of rupture of the iris, including two original ones. They review the literature up to date. Their Case 1 is credited to Stellwag, but it really belongs to Bünger. Stellwag reviewed this case in an article published in 1855, as stated in the paper by Dr. E. Franke.[2]



No 1.



No 2.

The thirty-one cases are arranged chronologically, giving age of patient, name of author, cause of injury, condition of iris and pupil and complications. It is a valuable collection, and one can, at a glance, review the interesting group of accidents.

Dr. George Levinsohn,[4] of Berlin, in a paper on "Indirect Ruptures of the Iris," reports four new cases. In the first, there were three ruptures of the pigmented pupillary margin; in the second there was a slight ruture of the pupillary margin and multiple perforations of the iris in the region of the dilator; in the third case, there were multiple slight ruptures of the pigment border; in the fourth case, the iris was atrophic from recurrent attacks of iritis. An iridectomy was attempted, but only small bits of iris could be removed. As a result of the operation, the pupil was drawn upward and the lower portion of the iris near its ciliary margin ruptured, thus giving him a small pupil. The case does not properly belong in the class of traumata as do the others.

Dr. George C. Harlan[5] reports a case of "Rupture of the Iris at the Pupillary Margin and in Continuity from Contusion of the Eyeball." It is accompanied by an excellent illustration in colors. There was a notch in the temporal border of the iris, which extended to within 3 mm. of its periphery. There were also thirteen serrations in the margin of the pupil, which could be seen in favorable light. The lens was not injured. No iritis followed, and the eye recovered excellent vision. To this case he adds five more, stating that they formed six instances of pupillary rupture, and two of radiating rupture in the continuity of the iris. These cases are tabulated by Weiss and Klingelhoeffer.

I find the following new cases which are not mentioned by Weiss and Klingelhoeffer:

Dr. W. F. Mittendorf[6] gives in detail a description of a patient who was accidentally struck in the eye by a stone, and, as the result of the injury, had six distinct ruptures of the pupillary border.

Woodward[7] relates a case of rupture of the pupillary border of the iris extending through one-half its width. There was an accompanying rupture of the choroid, which was in evidence when the intra-ocular hemorrhage had absorbed. The eye made an excellent recovery, with perfect vision with the aid of + cyl. 0.5.

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[2] Graefe's Archives, vol. xxxii, No. 2, p. 261.

[3] Arch. f. Augenh., vol. xxxix, 1899.

[4] Archiv. f. Ophthal., vol. xxxii, 1903, p. 135, translated by Dr. Ward A. Holden.

[5] Trans. Amer. Ophthal Society, vol. vii, p. 640.

[6] Trans. Amer. Ophthal. Society, 1899, vol. viii, p. 541.

[7] Archiv. f. Ophthal, 1897, vol. xxvi.

If, to the cases tabulated by Weiss and Klingelhoeffer, we add the four reported by Levinsohn and one by Woodward and one by Mittendorf, and my own case, we will have a total of thirty-eight cases.

This probably does not represent all the cases of slight ruptures of the pupillary pigmented border, or of ruptures in continuity, which very easily escape observation. The elasticity of the iris is such that the slight tears readily close and are thus overlooked.

The question as to whether the rupture occurs in the direction of the force or perpendicular to it has been ably discussed by the authors mentioned.

It seems evident that no rule has ever been or probably ever will be formulated which will explain all of these cases. An eye is struck by a fist or by a flying fragment of wood or metal, and one cannot tell definitely what part of the eye was most impinged on. The rupture of the iris may occur on the side of the injury or on the opposite side, and this result is governed by laws which are not yet well explained.

In my case there can be no question about the rupture occurring in the direction of the force and not pependicular to it. The entrance of the pellet of lead into the margin of the lid and the location of the iridectomy coincide exactly. The detached piece of iris was lying in the coloboma plainly visible and could not be mistaken. The gray background of the opaque lens left no room for doubt.

R. B. HALL, M.D.
J. M. WITHROW, M.D.

Obstetrics and Gynecology.

C. L. BONIFIELD, M.D.
M. A. TATE, M.D.

The Treatment of Accidental Hemorrhage.

A. Vernon Macan, A. L. Galabin and others (*British Medical Journal*).

This paper is summarized as follows:

Accidental hemorrhage has a tendency to cease spontaneously in the absence of disease. A diagnosis is frequently not made, as it commences as an internal hemorrhage and closes spontaneously.

A large proportion of so-called accidental hemorrhage is due to the low insertion of the placenta.

The diagnosis cannot always be made by the finger.

If the placenta be of low insertion the hemorrhage is not likely to be either internal or combined.

The circular sinus of the placenta rupturing gives symptoms that are very similar to those of internal or even combined hemorrhage.

Other factors are mentioned that tend to cause the hemorrhage to remain internal, besides a want of tone of the uterine walls; they are: a lessening of the first *vis-a-tergo;* the position of the first hemorrhage, its amount and the firm adhesions about it.

In those very bad cases of rigid os and a long cervix it is (probably) necessary to deliver the woman immediately, and Cæsarean section, either vaginal or abdominal, is a better way of doing this than acchouchement forcé. However, in those less severe cases, where the cervix is long and the os rigid, properly applied tampons should be tried.

During a contraction of the uterus the hemorrhage may cease, but not in the interval.

We find that accidental hemorrhage is often due to the accidental escape of excessive liquor amnii, and after the birth of the first pair of twins. When the hemorrhage escapes from under the placenta the tendency to further separation of the placenta is lessened, because the membranes (unless morbidly adherent) are more easily separated than the placenta.

Rupturing the membranes must always cause a diminution in the intrauterine tension, and makes it more difficult to increase this tension by tamponing the vagina. Therefore, rupture of the membranes is not good treatment for ordinary cases of accidental hemorrhages, unless it causes rapid expulsion of the child. It is, however, a most efficient way of stopping accidental hemorrhage which is caused by a persistence of the bag of waters far into the second stage or by a low insertion of the placenta. The great danger in affecting delivery of the child *per vias naturales*, when the cervix is only partially dilated, is due to the difficulty there is in judging how much time is at our disposal to effect the dilatation. In tamponing the vagina and in the application of a tight binder and a firm perineal bandage we have a most efficient method of treating all but the worst cases of accidental hemorrhage, perhaps even these. Adhesions may stop internal accidental hemorrhage by causing localized increase of tension, but their presence cannot be determined. If the original seat of the hemorrhage is at the very centre of the placenta, the whole of the placenta will become detached; and if the placenta is situated exactly at the fundus, the membranes also will be all separated before the hemorrhage becomes external. Prolapse of the placenta depends on both these conditions being present. All cases of accidental hemorrhage should be reported, not the severe cases only, and the position of the rupture in the membranes carefully noted. M. A. T.

Chorion-Epithelioma.

Cases reported by Smallwood Savage, Christopher Martin, Thomas Wilson, Windsor and Fairbairn (*British Medical Journal*).

1. Patient aged fifty, mother of eight children, last born seven years ago. Menstruation irregular for the last two years. For two months complained of dyspnea, progressive wasting, with pains, tenderness and swelling of the abdomen, especially on the right side. The breasts had been getting larger. No vomiting, but patient was not able to eat.

Examination.—Pulse and temperature elevated. General condition bad—from weakness and anemia. Abdomen enlarged by a tumor rising up out of the pelvis and reaching a finger's breadth of the umbilicus and higher on the right side. A fluid thrill was felt in parts, and it was somewhat tense. A souffle heard all over it, but not the fetal heart. A blood clot in vagina; vaginal walls and cervix swollen and edematous and vulvar veins enlarged. Ballottement could not be obtained. On insertion of finger into internal os a soft, doughy mass could be felt. The tumor was uterine, but its nature not clear.

The examination brought on a hemorrhage; gauze packed and ergot given with the hopes that the uterus might empty itself.

The following day Savage removed four and a half pints of cysts of the hydatid mole mixed with blood and clot, the cysts varying in size up to a small walnut. Uterus contracted down to about four inches in its cavity length. Hemorrhage lasted five days and convalescence took place. One month later a continuous slight blood discharge commenced, and later a profuse hemorrhage occurred, rendering the patient anemic and faint. Vagina promptly plugged with gauze. Abdominal examination negative. Uterus somewhat enlarged, thickened cervix patulous and both lips edematous. Eleven weeks after removal of mole Savage made a hysterectomy, and five months afterward no sign of recurrence, and patient's condition excellent. Microscopic examination of tumor showed it to be an epithelioma of the chorion.

2. The case reported by Christopher Martin gives the following history: Patient aged fifty, had eleven children and three miscarriages. Had had constant hemorrhage for twelve weeks from uterus, never offensive. Except for a shortness of breath, patient otherwise well.

Examination.—Abdomen negative per vaginam, uterus enlarged to about the size of two months pregnancy; cervix soft, spongy, granular, and patulous, but not enough to admit the finger. Uterus mobile, appendages normal.

Diagnosis of cancer in the body of the uterus was made and a vaginal hysterectomy done. Upon laying open the uterus a soft, friable, fungating growth the size of a hen's egg growing from the endometrium. Patient made a good recovery. Microscope revealed an epithelioma of the chorion.

3. A case reported by Wilson. Patient only twenty-two years old and single. Succumbed to the disease one year after she was delivered of a hydatidiform mole. The microscope proved it an epithelioma of chorion.

4. A case by Windsor and Fairbairn. Followed full term delivery; recovery from confinement not complete, patient being anemic, feeble, and had a sanguineous discharge. Six months after confinement examination showed uterus enlarged and discharge had increased and was offen-

sive. Vaginal hysterectomy. Convalescence complicated by the development of a subclavicular abscess. Six weeks later patient died Microscopic examination of removed uterus: Deciduoma malignum.

M. A. T.

Significance of Fever in Childbirth.

E. Ihm (*Zeitschrift f. Geb. und Gynakologie*) states that the height of the fever and chills intrapartum are no criterion of the seriousness of the case, but great stress is laid upon the pulse. The pulse being high the prognosis is less favorable, even although the temperature may decline. The bag of waters being intact, patient suffering from fever, we can generally look for a favorable prognosis. Ihm comes to these conclusions after a study of some two hundred cases of fever intrapartum. The most important factor in its etiology is the premature or early rupture of the membranes. Long-protracted delivery after the rupture does not seem to affect the prognosis unless it lasts more than three days, and the fever sets in soon after the membranes rupture. The prognosis for primiparæ is only a trifle less favorable than for multiparæ, and the latter are much more liable to have a febrile puerperium than the former when the birth has proceeded normally.

M. A. T.

Pregnancy Complicated by Tumors of the Uterus.

The discovery of a tumor complicating pregnancy Fairchild (*Annals of Gynecology and Pediatry*, November, 1904) holds does not always mean an operation when first detected, but rather a careful watching of patient. If it is found that the uterus cannot rise out of the pelvic cavity about the fourth month, or that an abortion is almost certain to occur, then either one or two things should be done: either let nature complete the abortion or the surgeon make a supra-vaginal hysterectomy. Should the uterus be advancing into the abdominal cavity the case should be let alone unless grave symptoms supervene, and then Fairchild advocates supravaginal hysterectomy. If the tumor be in the lower segment of the uterus and large enough to obstruct and interfere with delivery, its removal is imperative. The child at full term means either a delivery spontaneously by nature, or some operative procedure, as a Cæsarean section or a Porro operation.

M. A. T.

Rheumatism.

G. E. Malsbary (*Medical Record*, December 10, 1904) says that the term rheumatism is used to cover a multitude of diagnostic sins, and that each case should be carefully analyzed so as to determine its exact nature before attempting a line of treatment. At least five distinct affections are comprised under this appellation, viz., (1) acute articular rheumatism, (2) chronic articular rheumatism, (3) gonorrheal rheumatism, (4) muscular rheumatism, and (5) nodular rheumatism (arthritis deformans). The author describes the symptomatology of each of these groups in detail and then discusses the proper plan of treatment for each variety. His advice is: First, determine whether the disease is a rheumatism or some simulating affection, such as gout, arthritis, trichinosis, syphilis, tuberculosis, rickets, osteomalacia, or diffuse sarcomatosis or carcinosis. Second, classify the case among the reconized clinical forms of rheumatism. Third, if possible, find the cause or causes operative in the individual case, in order that the treatment may be rational. Fourth, watch the heart.

M. A. B.

Infant Feeding

M. J. Synnott (*Medical Record*, December 24, 1904) discusses the proper management of breast and artificially fed infants. The question is one requiring careful study of each case, and the child must be kept under observation until there is no doubt that it is on the right track to the proper assimilation of its food. The decision whether or not the infant is to be weaned is a serious one, and is to be reached only after careful deliberation. The following conditions indicate the necessity for resort to artificial feeding: (1) failure to gain weight, or actual loss of weight; (2) a milk supply so deficient in quality or quanity as to be beyond control; (3) unconquerable colic and evidences of imperfect intestinal digestion, plainly manifested in the stools; (4) consideration for the mother's health, when it is clear that the strain of nursing is too much for her. The subject of is treat at length in the article.

E. W. M.

The Lancet-Clinic

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THE OCULAR MANIFESTATIONS OF CEREBRAL SYPHILIS.*

BY LOUIS STRICKER, M.D.,
CINCINNATI.

It has long been recognized that the anterior as compared with the posterior cranial nerves are exceptionally prone to become involved in syphilitic disease processes which develop at the base of the brain. These nerves are more apt to become involved in consequence of the long distance traversed, relatively speaking, from their brain exits to the foramina or fissures by which they finally leave the skull cavity. They are subjected to a variety of pathologic conditions (exudates, granulation tissue, gummata, periostitis, exostoses), in consequence of which the nerves may be directly or indirectly involved. Though these syphilitic processes most frequently attack the base of the brain, particularly the portion resting in the middle cerebral fossa, like processes may involve the convexity, and in a certain percentage of cases the interior of the brain is the seat of disease. Innumerable post-mortems have demonstrated that the region of the chiasm, the interpeduncular space and the pons are most frequently the seat of syphilitic new growths. So that it is not difficult to understand why the ocular symptoms are of such frequent occurrence and very often are the earliest phenomena noted. The usual form of disease is that of a gummatous meningitis, as a result of which the nerve trunks are pressed upon and subsequently destroyed, or become secondarily involved in the disease process. Bernheim reports a number of cases in which the nerves were primarily involved.

Some idea of the frequency of ocular involvement may be gleaned from the magnificent analytical studies of Uthoff (*Graefe's Arch.*, Vol. 39 and 40), who states that in an examination of 20,000 patients, extending over an experience of eight years in Schoeler's eye clinic in Berlin, he observed 100 cases of cerebral lues, and of these, 85 had ocular paralyses of one form or another. (Seventeen of his cases were verified on post-mortem examination.) Adding to his 100 cases 150 selected cases taken from literature, and in all of which post-mortem examinations had been made, he formulated the following conclusions, namely, that granulation tissue, gummata, thickened meninges and exudates at the base are responsible for the ocular symptoms of cerebral syphilis. A very respectable percentage, however, were found to be due to gummata of the convexity, and particularly of the peduncles; the disease of the peduncles being primary, independent of basal disease which existed simultaneously. He reiterates repeatedly that arterial changes play but an indirect rôle in this affection, and then only as a result of pressure. The changes in the vessels belong to the metasyphilitic processes, as observed in cerebral softening, sclerosis and locomotor ataxia.

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* Read before the Academy of Medicine of Cincinnati, December 5, 1904.

These pathologic conditions belong to the late manifestation of syphilis, but may occur as early as one or two years subsequent to infection. He believes that hereditary syphilis is responsible for more cases of cerebral lues than is usually assumed, having observed eight cases, all under twelve years of age, and that it may occur as late as the twentieth year. I have observed two cases, the histories of which will be given later on. His combined 250 cases disclose that the oculomotor was involved 90 times; abducens, 43 times; trochlear, 11 times; trigeminus, 36 times; facial, 9 times; optic nerve, 101 times.

From this it will be noted that the oculomotor is involved in vastly the majority of cases. And this is in accord with the statement that the interpeduncular space is the favorite seat of the development of new granulation tissue. Depending on its extent, one or both oculo-motor nerves may be involved, and as neighboring structures are gradually involved in this new formation; one or both peduncles may become implicated, so that the ocular paralysis may have associated with it a crossed paralysis of an arm or leg, an entire hemiplegia or a complete paraplegia when both peduncles are involved. It must not be forgotten, however, that an independent gumma may exist in the peduncle. Where the process starts either more anteriorly or gradually extends forward, there may in addition be present a homonymous hemianopsia, or when still farther forward, involving the chiasm, may lead to a temporal hemianopsia, although this latter form is very rare. Anterior involvement can lead to optic neuritis. Pressure on the chiasm may lead to sudden and complete blindness without any sign being apparent within the eyes on use of the ophthalmoscope, and where the basal process is extensive, all the cranial nerves may successively become involved.

Among his ninety cases of *oculo-motor paralysis*, sixteen were complicated by paralysis of opposite side of body, and, as a rule, the gumma was found at the base, at the point where the third nerve emerged from the brain. In a number of cases two separate lesions were found, one a gummatous condition around the base of the third nerve, whereas the crossed hemiplegia was due to a gumma in the peduncle. (Five cases of gumma of the peduncle, four cases of softening in the peduncle, and two cases of softening in the pons.) The remaining seventy-four cases were equally divided between single and double involvement of the oculomotor, associated with every possibly conceivable additional involvement of other cranial nerves, but particularly the first eight. In more than 50 per cent. of cases the involvement of the oculo-motor nerve is not complete, and the extent and character of its involvement becomes a matter of considerable diagnostic value.

An early symptom of third nerve involvemement is *ptosis*. This may be the result of intracranial pressure, due to an exostosis, a gummatous exudate, or a direct gumma of the nerve itself (and this is also true of other cranial nerves). An isolated ptosis developing during the course of a brain lesion, the other branches of the third not being involved, is, as a rule, nuclear or fascicular, almost never basal. There are various authors who have claimed to have found a cortical area for the levator of lid, but as yet this has not been satisfactorily proven.

Sanger and Wildbrand (Vol. i, Part ii, p. 349) state: "In cerebral syphilis an isolated ptosis is valueless as a symptom from which alone the seat of the lesion may be localized. Whereas in tabes we refer without reserve a case of isolated ptosis to a degenerative process in the levator nuclear area, the same clinical symptom in cerebral lues not infrequently points to basal disease, or a peripheral neuritis."

Sanger and Wildbrand (Vol. i, Part i, p. 156): "Tabetic ptosis is frequently associated with an abducens paralysis.

In other cases the ptosis is but one symptom of a complete isolated oculo-motor paralysis, but the same form of paralysis may recur repeatedly in cerebral syphilis."

The form of ptosis which occurs in the tabetic ophthalmoplegia exterior is the source of greatest difficulty in leading to a differential diagnosis, since the same condition may occur in syphilis.

Sanger and Wildbrand ("Neurologie des Auge," Vol. i, p. 138, Section 61) state that where ptosis is the only symptom a differential diagnosis between tabes and cerebro-spinal lues is an exceedingly difficult matter. Even where ptosis is accompanied by the Argyll-Robertson pupil the diagnosis cannot be definitely made at once, since these same symptoms may occur in both diseases. The loss of the patellar reflex may occur in both affections, aside from the fact that the patellar reflex may be retained in tabes. In lues, however, paralysis of other branches of the third nerve usually follow.

An *isolated ophthalmoplegia externa*, without involvement of the sphincter of the pupil and accommodation, is rare. Uthoff observed but three such cases. In two of these softening existed in the pons, and in the third it was a real basal affection.

Ophthalmoplegia interna is rather a rare condition in cerebral lues. Uthoff reported but five cases of ophthalmoplegia interna, which, in the vast majority of cases, is due to a fascicular or nuclear degeneration, and consequently is rather a symptom of tabes, and general paralysis of the insane, though this may be the only symptom remaining after the clearing up of a case of complete oculo-motor paralysis.

Uthoff states that he found the *Argyll-Robertson pupil* present in but 14 per cent. of cases of syphilis, whereas this is present in fully 60 to 90 per cent. of cases of tabes, and in 50 per cent. of cases of progressive paralysis. Though the percentage of cases of loss of the consensual reaction of the pupil in syphilis is vastly inferior to above causes, nevertheless the percentage is greater than in cases of brain tumors, multiple sclerosis, alcoholism, abuse of tobacco, traumatic neurosis, dementia senilis.

Sanger and Wildbrand (page 150) state that whereas in most cases of incipient tabes the Argyll-Robertson pupil is observed, a very frequent initial symptom of cerebral lues is a one-sided, isolated, absolute paralysis of the pupil, which may have associated with it a paralysis of accommodation, together with weakness of same side of body. The loss of the consensual reaction of the pupil on one eye only, has also been observed in cerebral syphilis.

It is extremely rare to find the *abducens* affected in brain syphilis without involvement of other nerves. This lesion was observed by Uthoff 43 times in his 250 cases, both nerves being affected twice as often as the cases in which a single nerve was affected, and this condition was associated with paralysis of same or opposite side of body in the proportion of 1 to 1.5. A true nuclear abducens paralysis must be extremely rare in brain syphilis, being rather a manifestation of the metasyphilitic affections. It must be extremely rare to find a single abducens paralysis in brain syphilis without association with paralysis of other nerves, more particularly the facial. In the majority of cases the disease is basal, but it may be an intracerebral pons affection.

In not a single case did Uthoff find an isolated paralysis of the trochlear. He found this nerve involved in 5 per cent. of his cases, and most frequently associated with oculo-motor paralysis. In every case which reached the post-mortem table the cause was found to be basal. Both nerves were foud affected but once.

The trigeminus was involved thirty-six times. In all the cases but one the involvement was restricted to one side. In but four cases was the trigeminus the only nerve affected, and in these this was due to a periostitic process pressing on the nerve. In all the reported cases not one could be safely attributed to a nuclear degeneration. All of these cases could be traced either to syphilitic new growths at the base or pons disease.

Nystagmus was observed four times and nystagmus-like movements six times. So far it has been impossible to attribute these oscillating movements to any special lesion. Its occurrence is of no special diagnostic value and is present in about 6 per cent. of cases, as opposed to 46 per cent. in disseminated sclerosis. It was found usually combined with other ocular paralyses, in which basilar syphilis was present.

Conjugate deviation of eyes was observed in six cases, and, as a rule, indicates a meningitis or gumma of the convexity in the region of the gyrus angularis. During the stage of irritation the eyes are turned away from the lesion; after paralysis sets in the eyes are turned toward the lesion. Uthoff states that the eyes are turned away from the lesion when this is in the cerebrum, but toward it when in the pons.

The optic nerves are particularly prone to involvement. Among 167 autopsies, the optic nerves, chiasm or tract was found involved 101 times, due to gummatous involvement at the base around the chiasm, or further back in the region of the pedunc'es. The chiasm, the sella turcica and the hypophysis seem to be places of special preference, and in a few cases the intra-cranial optic nerve sheaths and nerves were involved.

Optic neuritis is exceedingly common, and is usually double. The intracranial portions of the optic nerves show a special predisposition to pathological changes due to marked inflammation of its memingeal covering, which produces perineuritis, neuritis, and even actual gumma may develop in the nerve proper. Where this condition becomes widespread, it can easily be understood how the chiasm may become involved and lead to hemianopsia, or by its extension backward toward the tract lead to hemianopsia. The optic neuritis may become of greater intensity and be recognized as a *choked disc*, but this seldom occurs with the suddenness and intensity observed in brain tumors. It is possible for a neuro-retinitis to be an extension of the process within the skull cavity. Choked disc was present in 14 per cent. of his hundred cases, and he doubts very strongly whether this could be the only symptom of cerebral syphilis.

Simple optic atrophy, in most cases double (a descending neuritis, due to basilar gummatous meningitis), has been observed. In none of these cases was an optic neuritis observed to have preceded the atrophy. These were in all probability cases of retrobulbar neuritis. In this connection it should not be forgotten that simple optic atrophy, as a rule, is considered a symptom of locomotor ataxia.

It is especially to be commented on, however, that it is a great rarity to meet with absolute amaurosis. Even in cases where blindness has been known to exist as long as fourteen days partial vision in the form of a hemianopsia has been later on restored, and this factor is a fundamental differential point, as distinguishing it from progressive optic atrophy, as observed in tabes and progressive paralysis, which, as a rule, end in total blindness. In brain syphilis the changes are almost never primarily those of optic atrophy, but are a secondary result of gummatous infiltration. As a rule, optic neuritis or choked disc precedes the atrophy.

"Blindness in brain syphilis is relatively frequent, occurs suddenly, but is transitory. Ophthalmoscopic conditions are negative. Wernicke says sudden blindness without an ophthalmoscopic explanation is either syphilitic or tubercular. Oppenheim says if one wishes to understand the constant variability in degree of vision one must bear in mind the pathologic conditions—a rapidly developing granulation tissue, which dies and reforms quickly, and which surrounds and constricts the nerves, and this varying pressure is exerted as in no other disease. This new tissue is exceedingly rich in bloodvessels, whose walls are greatly changed, the lumina of which, due to increased thickness of the intima and formation of thrombi, are either entirely closed or very much lessened in size. It is an exquisite tissue, subject to swelling, which forces itself between the chiasm and the base of the brain, and which sends its tentacles, as it were, between the nerve bundles."

So that we see cerebral syphilis is an acute process, characterized by the formation of an exuberant granulation tissue, standing in direct contradistinction to the chronic meta-syphilitic processes, as observed in tabes, cerebral sclerosis or softening which follow in the wake of long-continued toxemias. These toxemias not only lead directly to cellular changes in the ganglion cells of the brain, but secondarily the same results are attained in consequence of arteriosclerosis and total obliteration of vessels. The meta-syphilitic pathologic changes are gradual in their onset, progressive, and do not seem amenable to treatment with any degree of success. Though the meta-syphilitic diseases have long been considered as the result of syphilitic infection, the view is constantly gaining ground, that all long-continued toxemias can produce like processes, and the time is coming when all the so called cases of meta-syphilis will not be looked upon as syphilitic in origin.

It is possible, however, for an acute attack of cerebral syphilis to develop in a case of long-standing meta syphilis.

It should be borne in mind that cerebral syphilis is a clinical picture, distinct from the meta-syphilitic diseases. Aside from the ocular symptoms, which are the subject of this paper, this disease is usually ushered in by violent symptoms, such as headaches, dizziness, nausea and vomiting, and in many cases an active, often violent, delirium develops early in the course of this affection, whereas none of these features are prominent in the early stages of meta-syphilitic disease. In both the ocular symptoms are often the first to occur; they do not, however, long precede the other cerebral or spinal symptoms in cerebral syphilis. Cerebral syphilis is rapidly amenable to treatment, whereas the progress of meta-syphilitic disease is not stayed by any form of treatment.

The text-books tell us that ocular paralyses are fleeting, disappear rapidly under antisyphilitic treatment. They do in cases of cerebral syphilis, but I have yet to see the first case of diplopia disappear where the case was one of meta-syphilis. Some years ago I read a paper before this society on the "Ocular Symptoms of Locomotor Ataxia" (published in "International Clinics," Vol. ii, 1900), in which I reported fourteen cases of various forms of ocular paralyses, and in not a single case did treatment lead to disappearance of an ocular paralysis. All the ocular paralyses were permanent, and in not a single case which I have been able to follow up since that time has improvement been observed.

Experience has taught me that ocular symptoms which do not clear up quickly under antisyphilitic treatment are permanent and indicate central ganglionic brain degeneration. They may remain stationary, or gradually have other lesions added. so as to present classic pictures, symptomatic of lesions in certain areas. Those paralyses which clear up are peripheral, due either to pressure from thickened meninges, new growths, or exudates at base, whereas those which are permanent are either fascicular before their exit from the pons, or ganglionic. The very fact that a paralysis does not clear up rapidly is very significant of its central origin. It should be borne in mind that distinctive strands of fibres in a nerve after its exit from the brain may degenerate and simulate a central lesion. Thus the macular bundle of the optic nerve may degenerate and lead to a central scotoma. In the last few years histologic research has taught us that these nerve fibres nearly all take their origin from the ganglionic cells of the retina. The central bundle of the oculo-motor may degenerate and produce paralysis of the pupil and of accommodation. It has been held as axiomatic that a lesion of a single bundle of nerve fibres, particularly of the third nerve, is central. Though this is no longer considered absolutely true, since this is now considered as possibly due to degeneration of the ciliary ganglion, it nevertheless leads to the justifiable inference that the lesion is central. A careful investigation as to the succession in which the symptoms develop, especially those which are *not ocular*, will add much in giving us a correct idea as to the location of the lesion. This can never be done from an isolated ocular paralysis, but becomes possible where a number of ocular paralyses follow each other, or where, in conjunction with optic neuritis, atrophy or hemianopsia, other cranial nerves or motor tract involvements (going arm, leg, or entire side of body) develop.

Sanger and Wildbrand, Vol. i, Section ii, p. 352, sum up the possibilities of a diagnosis as follows:

"At the present we are not in a position from the grouping of the ocular symptoms to make a positive diagnosis of a *nuclear paralysis*. Hence, we must seek other factors on which to base a positive diagnosis. Of these two groups exist *the positive* and *the negative*.

"*The positive symptoms* are those which belong to the symptomatology of ocular disturbances, which occur in diseases such as tabes, in which it has been proven that the nuclear degenerations do occur.

"*The negative symptoms* are those which occur in cases in which other cranial nerves are affected, and in which a paralysis of the opposite side of the body develops, and which indicate basal disease. Without being positive signs of nuclear degeneration, this is indicated where paralysis of ocular nerves going to the interior of the eyeball are spared in the beginning, and involvement of the branches of the third nerve, one after the other, take place; the bilateral occurrence of the symptoms; the absence of all cerebral symptoms, except those of somnolence and bulbar symptoms; the presence of sugar in the urine; the gradual increase of the symptoms with remissions."

The rapid exhaustion of an at one time fully paralyzed muscle, which after a few minutes' rest will partially functionate again, and the gradual transition of that which in the beginning was a paralysis—as per example a ptosis into a spasm of the levator when an intentional movement downward is attempted.

As negative of a nuclear paralysis, but indicating disease along the tracts governing the ocular muscles, are the following conditions:

1. A hemi- or paraplegia indicates an involvement of the peduncles or pons.
2. An involvement of the optic nerves, one or both, with corresponding defects in the field of vision, or temporal hemianopsia as a symptom of involvement of the chiasm, or a homonymous hemianopsia as a symptom of a tract lesion.
3. In addition, the ophthalmoscope may give us confirmatory proof in the presence of a neuritis or atrophy.

Should other symptoms, such as violent headaches, apoplectiform seizures, aphasia and optic neuritis or atrophy develop, they would certainly lead to a diagnosis of cerebral syphilis.

There is no more protean disease than cerebral syphilis, and a multiplicity of symptoms is one of its distinctive features. The involvement of but a single nerve, or branch of a nerve, is not evidence of its presence, but rather speaks against such a disease; whereas the rapid involvement of a number of cranial nerves, one after the other, together with an involvement of one or more of the large motor tracts going to one or more of the extremities, and the development of psychic disturbances, makes the diagnosis almost a certainty. The rapidity and violence of onset seems to be distinctive of this disease, and still cases not infrequently are met in which the onset is insidious and its progress gradual.

CASE I.

Basal Syphilis and Gumma of Right Peduncle.—Mrs. B. was referred to me by Dr. A. V. Phelps in 1897. She had been under treatment for a long time. Her husband had been under treatment for syphilis before marriage, and she had aborted in the fourth month, since which time she has never been well. This was some four years previous to the time I saw her.

The patient was brought to the office in care of nurses; was extremely weak and and had to be assisted in walking. Her mind was not clear; had intense pain in the back of her head, which was continuous. Had tingling sensation in the fingers of both hands; muscular twitchings on right side of her face, and two weeks previous to her first visit to my office had had aphasia.

The patient had large quantities of albumin in her urine, so that she was sent to me to make a differential diagnosis, if such could be made, as to whether she had a retinitis Brightica, a neuritis, or choked disc, due to a gumma cerebri. (I would state that from my investigations and experience since that time, I would hesitate to make a diagnosis of either disease from fundus conditions alone, but would give the fundus conditions their fair degree of value when taken in conjunction with the other symptoms and general conditions.)

There were no paralyses of any of the ocular muscles. The pupillary reflexes were prompt. Vision in both eyes was perfect. Nevertheless, ophthalmoscopic examination disclosed in both eyes most exquisite papillitis, choked discs, requiring +6D to focus the papillæ. The veins were deeply congested and extremely tortuous, as were also the arteries. Otherwise the fundi were absolutely free of pathologic changes. A diagnosis of basal syphilis and gumma cerebri was made. She left the following day in charge of nurse for Hot Springs, Arkansas, and two and a half weeks subsequent to her arrival there suddenly had an attack of aphasia and total paralysis of her left side, which lasted an hour, and then passed off, recurring daily for a week. She also suffered from tinnitus aurium. Three months subsequently she was in perfect health, and an examination of her eyes failed to disclose any evidence of neuritis. At the present time she is in perfect health and no sign of her former paralysis excepting a slight facial paralysis involving the angle of the mouth. She has since born a healthy girl, now six years of age.

CASE II.

Congenital Syphilis.—Carrie S., aged twelve years, was brought to me on account of failing eyesight. The family history is negative; has three sisters living and in good health. Had measles about one year ago. Whereas formerly she was a bright, active child, who learned easily, she is now pale, anemic, listless; memory poor; cannot hold her attention more than a few moments; is dizzy; has constant headaches, and has had a number of attacks of cerebral vomiting. Strength in her right hand is very much less than in her left; can hardly close her right hand. Daily has a cramp in the middle finger of her right hand, which gradually involves the whole hand, and at times causes her to flex the arm at the elbow. Heart hypertrophied. Pulse 120 and irregular. Examination of urine negative. Though her vision was normal, she was conscious of a contraction of her fields and a haziness over everything she looked at. Ophthalmoscopic examination failed to disclose any pathologic condition. Consensual and direct pupillary reaction were perfect. Fields taken showed a very marked contraction of fields in both eyes, but complained that she saw more poorly in looking toward the right, with color sense retained in areas remaining. Diagnosis was ventured of possibility of a brain tumor, possibly a gumma. Child was put on mercurial inunctions and iodides, and in course of sixty days all symptoms disappeared and the fields gradually increased until they reached the normal. Disease located in *left peduncle* and basal.

CASE III.

Congenital Syphilis.—E. H., colored girl, nineteen years of age, was brought to me September 24, 1903, by a lady who had taken her from the orphan asylum at Reading, which had been her home since her eighth year. The lady told me that the girl was so destructive, breaking everything she touched, that she thought she had better have her eyes examined.

The patient is a well-developed, robust colored girl, dull in appearance, with exceedingly prominent frontal sinuses. There is a tremor in her right arm, which she states has been present for two years past. Hemianesthesia of her entire right side, face included. Has headaches and dizzy spells; sleeps poorly. Her mentality is low and she answers questions only after a considerable interval of time. Patellar reflexes are absent.

Various reactions of pupil normal. Vision she states has been failing gradually, at present equal $^6/_{60}$. Fields taken show contractions down to 10°; fundi were both normal. She was put on saturated solution of iodide, and in next two weeks her headaches had decreased; dizzy spells disappeared. Fields increased in size. Vision $=^6/_{24}$. Trembling of her right arm seemed to be increasing. On November 5 the trembling of her right arm suddenly ceased. Vision, left eye$=^6/_{12}$; R. $^6/_{24}$ (but hemianesthesia remains). I saw this patient last time in March, 1904. Vision in her left eye$=^6/_6$; right eye V.$=^6/_{24}$. All symptoms had disappeared except the hemianesthesia of entire right side.

CASE IV.

Cerebral Syphilis at Base.—March 20, 1904, was called in consultation by Dr. Julius H. Eichberg to see Mrs. C. E. L. She was complaining of seeing double, had intense neuralgia, and made so much noise at night that the morphine habit was suspected.

Has been married twice. Her first husband died of "some brain trouble." She has never been pregnant, and has no history of syphilis. Has had two sisters die insane.

Patient has been losing weight gradually in the past few months, going down from 145 to 120 pounds. Has been dizzy for months and sick at her stomach. At time of my visit was extremely nervous and very weak, so that she could scarcely sit up in the chair long enough to undergo an examination, and although she seemed perfectly rational at the time, she told me subsequently that she had but a very hazy recollection of her stay at the hospital and none whatever of my examination of her.

Her pupils were equal and reacted to light and consensually.

Right side: Paralysis of external rectus (sixth nerve), and trifacial neuralgia in all its branches.

Left side: Paralysis of facial and choked disc, the disc on right eye being normal. She complained that vision on left eye was blurred, as though covered by a mist.

She was put on inunction, and within three days the neuralgia had ceased and double vision became less troublesome. Within a week double vision had entirely disappeared. The choked disc likewise was but faintly visible and the mist over the vision was almost gone. Within one month all her symptoms had disappeared except a slight ciliary weakness, as she could not use her eyes for reading or sewing any length of time.

(For discussion see p. 42.)

IS THE PRACTICE OF PRODUCING ABORTION COMMON AMONG MEDICAL MEN?*

BY T. B. GREENLEY, M.D., LL.D.,
MEADOW LAWN, KY.

In answering this question I shall as far as my knowledge and belief extends, speak in the negative. I have, recently, read a very able and interesting paper by my friend, Dr. Aud, of Cecelian, Ky., on the subject of abortion, read before the State Association, at its late meeting at Lexington. The subject was thoroughly and ably discussed by some of our best physicians; and I feel very proud of the grounds on which their premises were based, as well as the logical character of their arguments.

During my practice of about sixty years, I have had some half dozen or more applications to have abortion committed; and strange to say, two of them were married women. It would seem to the ordinary mind that if a married woman wishes an act of that kind, she must be to some extent, at least, demented.

Both of these women were in good health, and seemed, as far as could be observed, satisfied with their married life, and both were childless. The first one was of a good respectable family in which I had practiced several years. She was about twenty years of age, and, as before remarked, in good health

When she called on me to perform the operation, knowing her so well from childhood, I was perfectly astonished, and gave her, in as pleasant a way as possible, a good scolding for thinking of such a thing. I pointed out, not only the character of the crime she would be committing, but the danger that might result from its commission. I explained to her that if I, or any one else, performed the operation, it would be murder, and would be liable to be punished for the crime, and at the same time she would be particeps criminis, and if she recovered from the effects of the operation, would be liable to punishment by the law.

She would not take my advice, and undertook the operation herself, with a sharp instrument, which, in endeavoring to pass into the womb, ran it through the body outside of the neck.

She died from the effects of inflammation without abortion taking place.

The second married woman was in perfect health, and, as far as I know, lived happily with her husband. I knew him as well as the husband of the other woman, and they seemed to be clever men, and were prosperous livers. Like the first case, I was greatly astonished when called on by the woman to produce an abortion, as she was a person of good sense, and stood well in the neighborhood. I argued with her as to the character of the crime, as in the other case; that it was involving me in a charge of murder, as well as herself. I scolded her very severely for even thinking of having such a crime committed. She, however, as in the first case, would not adhere to my advice, and had her own way. She went to Louisville where she had the operation performed. She finally recovered from its effects.

The first case of a single woman who was pregnant by her sweetheart, seemed not to know, or to be conscious of the fact, and had an old-time doctor attending her for dropsy. The disease seemed to hang on so long, her father sent for me. She was about five months pregnant. I had the room cleared of persons present, and examined her, and learned her true condition. She seemed to be astonished when I informed her that she was with child. I asked her if she and her sweetheart were still friendly; she answered in the affirmative, and that they were engaged to be married, but that as he was not of age, his parents objected. She was twenty years old. I then told her that she must get married right away, that there was no time to lose. They lived in an adjacent county to mine, and I told her to acquaint her father with the facts in the case, and get her sweetheart to go with him to the county seat and get a license to be married right away, as there was a preacher close by. Instead of taking my advice she sent for her sweetheart and made arrangements to elope to Jeffersonville, then the Gretna Green for such occasions. They privately left home after dark, and came by my house about midnight and called me up to accompany them on their journey. As I had my hand in the matter I thought I would see it through, and went with them on the trip, and arrived at Jeffersonville about sun up. I went with the groom to the clerk's office and obtained a license, then to the magistrate's office where the ceremony was performed.

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* Read by title before the Mississippi Valley Medical Association, at Cincinnati, October 11-13, 1904.

They wished to keep the matter secret, and did not return home until in the night. They soon went to housekeeping, and have been doing well ever since. I attended her in her first childbirth. She now has seven children, all living.

Two other girls came to me to have abortion performed, and after warning them of the character of the crime as well as the danger attending the operation, I inquired as to the relations existing between them and their sweethearts. In both cases they informed me that matters were all right, but did not want to get married right away. But after my talking to them for some time they agreed to have the ceremony performed. They were married in a short time and did very well.

As far as my recollection serves me, I am able to recall but one case wherein the male sweetheart called on me to produce an abortion in his girl. After explaining to him, as in the other cases, the criminal character of the operation, as well as the danger attending it, he agreed after my convincing him that his duty was to marry the girl, as he was to blame for the condition of her more than she was. They were married and the trouble was kept a secret.

One girl, who came to me for help, had trouble with her sweetheart, and all I could do I was unable to bring about a marriage between them. I was anxious in this case, as in the others, to protect the standing of the family, as well as herself, and got her in a charitable institution in the city where such cases are taken care of, where she remained until after the birth of the child, when in due time she returned home in good health. The matter was kept a secret, it being understood among the neighbors that she was in the institution on account of her health. I have always felt gratified with the good luck I have had in getting such trouble settled so satisfactorily, both as it respects the individuals themselves, as well as to prevent scandal and gossip among their acquaintances.

Personally, I have never known of a regular physician being charged with the crime of committing abortion, but have heard of instances being charged to quacks. I hardly think any honorable, upright medical man would be guilty of such a murderous transaction. It might be possible with some man in the profession who was ignorant of the penalty of the law in such cases to commit the crime in order to save the good character of the girl belonging to a respectable family. But in my estimation, he would do so through ignorance of the penalty of the law, as before remarked, as well as the demoralizing character of the act.

I hope all medical men, and I believe they do, use as much as is in their power, the same means as I have to prevent the commission of the crime.

Mastoiditis Complicated with Acute Nephritis and Erysipelas.

Jos. A. White, Richmond (*The Laryngoscope*, September, 1904) reports a case of mastoiditis in a boy aged seven years, complicated with acute nephritis and erysipelas, the inflammation of the kidneys appearing before any sign of the erysipelas showed itself. After running a severe course, with high temperature, the infections disappeared and the operation-wound in the mastoid healed perfectly.

C. R. H.

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

Meeting of December 5, 1904.

OFFICIAL REPORT.

THE PRESIDENT, S. P. KRAMER, M.D., IN THE CHAIR.

STEPHEN E. CONE, M.D., SECRETARY.

DR. LOUIS STRICKER read a paper (see p. 33) on the

Ocular Manifestations of Cerebral Syphilis.

DISCUSSION.

DR. S. C. AYRES: The subject as presented by Dr. Stricker to-night has certainly been very interesting. A great many of the cases of paralysis of the ocular muscles and of optic neuritis are often, I think, without any very clear history. Many of them are, of course, of syphilitic origin, although syphilitic infection is positively denied by both men and women.

In regard to the muscles, I am sure that my experience is rather different from that of the doctor's, according to his statement in regard to the third and sixth pair of nerves. I have no tables at my hand, but I am quite sure that the sixth pair of nerves is quite as often, if not more frequently, involved than the third pair.

In regard to papillitis spoken of by the doctor, I had a couple of cases two years ago which interested me very much. I am sure that there was no syphilis in either case. One of them was a young girl ten or twelve years of age. I have never seen optic discs more distended than they were At one time when she came to my office locomotion was so much impaired that she had to hold on to the arm of her aunt, who came with her, in order to walk steadily. In that case the conditions held on for a long time. She went home. I put her on treatment, and in the course of a year or two she got better. She was examined when in the city by Dr. Hoppe, who concluded that in all probability she had a cerebral tumor. Whether or not she had a cerebral tumor she is still alive, and her physical condition is much better

In the other case of papillitis which I had under observation at the same time one eye had excellent vision, the other was slightly impaired. I was certain in this case there was no specific history. She married shortly after that, and, so far as I know, is in excellent health now. In this case there was no locomotor disturbance, no paralysis of any of the ocular muscles. The marked papillitis which was present would lead one to think that she had some cerebral complication, probably a tumor. In neither of these cases, however, have any evidences of cerebral tumors developed since then.

DR. E. H. SHIELDS: The paper presented this evening is one of great interest. I do not get to see many of these cases, as they usually consult the oculist. I must take issue with the essayist for the use of the term para-syphilis. The nomenclature of syphilis is still in doubt, and before accepting new terms I think it best to adhere to the old classification of primary, secondary and tertiary syphilis until our knowledge upon this subject is more definite. I would cheerfully accept this term if it would give us a better idea as to what syphilis really is, but to the contrary, it helps to increase our difficulties. If these lesions are due to syphilis they must be syphilitic; if they are not syphilitic then they must be due to something else, and therefore are not of a syphilitic nature. Who of you would call a case of typhoid fever para-typhoid? If it is one it can't be the other. As to the toxin theory, it is very beautiful, but to my mind is wrong. Who of us would attribute the many ailments following an apparently cured case of tuberculosis to be due to the toxins left in the system by this disease?

Does it seem reasonable to believe that during the primary and secondary periods of syphilis, large quantities of toxins are formed and stored up, somewhere in the body, to be liberated from time to time and produce all of these late symptoms?

THE NEW YORK ACADEMY OF MEDICINE.

Section on Orthopedic Surgery.

Meeting of November 18, 1904.

HOMER GIBNEY, M.D., CHAIRMAN.

Congenital Torticollis.

DR. WHITMAN presented a patient, a boy ten years of age, showing the secondary effects of a very severe congenital torticollis in the irregularity of the skull, the eyes, nose and mouth. The contractions had been entirely overcome by a division of the shortened tissues and by force, with subsequent fixation. There was, in addition, a small meningocele of the neck and two supernumerary ribs. On either side one can feel resistant projections which are short ribs running outward and forward and downward, apparently to the anterior extremities of the first true ribs. The X-ray picture confirming the diagnosis had, unfortunately, been mislaid.

DR. MYERS asked whether the supernumerary ribs went down in the direction of the ordinary first and second ribs.

DR. WHITMAN said in this case he supposed the Section had noticed the thickening of the neck on either side. That was due to the supernumerary ribs. They rose well above the first rib and reached downward, apparently attached to the anterior third of the first rib. There were two, one on either side.

DR. MYERS asked if they were from the seventh cervical vertebra.

DR. WHITMAN said he supposed so.

THE CHAIR said the case was interesting to him as a good result. A great many of these cases are seen at the clinic; many for which nothing is done, many operated on and much improved. The after-treatment is most important in his opinion and the consequent pain on manipulation very severe, but the children accustom themselves to it and bear the heroic treatment bravely.

Congenital Dislocation of the Hips.

DR. WHITMAN exhibited an X ray illustrating one treatment that may be necessary for congenital dislocation of the hip. As we know, 50 or 60 per cent. of the cases cannot be anatomically cured by the Lorenz operation or any of its modifications. Of this 50 or 60 per cent. a large proportion of the failures is due to an anterior twist of the upper extremity of the femur. In such cases the joint should be opened, and if on inspection it appears that the femur is so distorted that the head cannot be placed in the acetabulum without inward rotation of the limb, an osteotomy is indicated. The dislocation is first reduced and the limb is fixed in the necessary inward rotation for a certain number of weeks or months. When repair is complete a long drill is put through the trochanter and neck, and if desired into the acetabulum. An osteotomy is then performed at the lower third of the femur and the limb is rotated outward to the proper degree. The X-ray picture presented showed the drill in position and the point at which the bone was fractured. The limb being placed immediately in a close-fitting plaster spica bandage in which the drill is imbedded, the part is held in position until repair is complete.

DR. MYERS said that when Dr. Lorenz was here he had just had one of those cases with very marked anterior rotation of the head, and to get it into the acetabulum the leg had to be inverted to fully ninety degrees. Subsequently they had performed subtrochanteric osteotomy in the upper part.

In speaking to Dr. Lorenz about this, Dr. Myers had asked whether it was necessary at that time, as there was too much outward rotation, although the head remains in the socket as shown by palpation and X-ray. He said that he very infrequently performed that operation; that the neck was inclided to twist backward as time went on. Dr. Myers said he simply repeated what Dr. Lorenz had said.

Painful Os Calcis.

DR. MYERS presented a boy, sixteen years of age, who for the past two years has complained of great pain in plantar surface of both heels. Dr. Myers brought him, because there seemed to be so little cause for the pain. Taking into consideration the boy's rapid growth and increase of weight and the fact that the pain was bilateral, Dr. Myers supposed it to be weak foot of some sort, but the diagnosis was not clear. There had been no injury of the plantar fascia or tendo-Achilles, no swelling of the bursæ in front or back of that tendon or the one occasionally found on the plantar surface of the os calcis.

The longitudinal arch is well preserved, also the transverse arch, and there is no pronation of the feet. The boy complains of pain in the heel, and only in the heel. He is not able to do any work. He had worn plates and his feet had been strapped before he came to St. Luke's, but without relief. Pain in heels only when he walks.

Dr. Gibney asked Dr. Myers if he thought there was any affection of the Achilles, and the duration. The boy seemed to have a breadth on the left side like a thickening.

Dr. Myers said there was no pain except in the centre of the heel, which had lasted two years.

Dr. Gibney said it looked like a case he had seen many years ago, a boy who had been the rounds of all the hospitals, and had been treated for two years without relief. Finally Dr. Weir dissected the skin and tissue trom the heel, made a curved incision back of the heel, turned up the os calcis and could find nothing but a normal condition; sewed up the wound, and the boy promptly recovered. He had been for several years a typical "rounder," with, as was thought, an hysterical heel. The physicians thought they would find rheumatoid thickening round the os calcis.

Dr. Taylor said he would like to ask a question in regard to painful heel. There are certain cases of very severe pain and thickening in the heel, with or without weak foot, that in his experience had been rather difficult to relieve. He had read a French article a while ago, in which it was strongly recommended to split the heel down to the bone and curette any diseased bursæ or thickening. The writer reported good success.

Dr. Whitman said pain in the heel was a common symptom of weak foot, even in a slight degree. The rather elongated heel in this case showed that the boy brought all his weight on the heel, stamping along on it. There certainly was thickening in the region of the tendo-Achilles. He thought in weak foot one found this a prominent symptom. Sometimes one finds bursæ. He explained the trouble in most instances as due to improper walk—walking on the heel, standing upon it without any spring. If proper foot rests are applied, distributing the weight, and the patients are taught how to walk to relieve the pressure, which in most cases causes the pain in the heel, they can be cured. That had been the experience of the speaker.

Dr. Frauenthal said he would like to mention a case in which the patient walked on his toes for a year and a half on account of tenderness in the heel. He was advised by two surgeons to have an operation, as they felt quite sure he had an ostitis. Caldwell took an X ray; the patient was exposed to the ray for two minutes; that was two years ago, and he has had no pain since. The speaker thought it rather peculiar, as two leading surgeons were quite sure he had an ostitis.

Foreign Body in the Knee Joint.

Dr. Hibbs presented a boy, ten years of age, brought to the Orthopedic Dispensary June 3, with the following history: July 17, 1903, while flying a kite from the roof, he stumbled and fell one story, through a skylight. Was taken at that time to a hospital, where a wound in the front part of his knee just above the patella was stitched up and he was discharged in a few days with that entirely cured. Afterwards he had some pain and stiffness in his knee, and he entered another hospital, where he was treated with a plaster cast for a month, then given a brace and high shoe, which he wore for three or four days and then discontinued it. He had no other treatment, and limped around until June 3, 1904, when he came to the Dispensary. At that time there was some stiffness, distinct synovitis, slight atrophy of the thigh and calf; no shortening. He complaimed of pain and gave a history throughout of something very much like a loose cartilage in the knee joint. When walking along the street he would have a sudden sharp pain, feel something slip and feel relieved. An X ray showed what was supposed to be a loose cartilage in the joint. While waiting for a bed in the hospital he came in one day with the knee immovably held at ninety degrees. Another X-ray was taken and the boy was taken into the hospital and the joint opened while at ninety degrees. The supposed loose cartilage was located, but the boy kicked during anesthesia and it disappeared into the posterior part of the joint. The operator was unable to get it, and the wound was closed, and after a few weeks healed, and the boy walked again. He was kept in the ward for two months, under observation. He occasionally complained of pain. A month afterward the foreign body was found and removed. It was a bit of glass at the knee joint (exhibited). It had been there since July 17, 1903, and was probably a fragment of the skylight through which the boy had fallen. It was interesting to note that the boy could go about so well without more serious trouble from July 17, 1903, until November 4, 1904.

Dr. Townsend said that the experience of Dr. Hibbs in not being able to find the body after opening the joint was a common one. He was fortunate not to get into trouble, and to get the body out finally. Dr. Townsend had a personal friend who had quite a good-sized body in the knee; was operated on in New York by a prominent surgeon, who tried for an hour and a half without finding it, and the patient was left with a stiff knee. He would not have a second operation. It is necessary to make an effort to fasten these foreign bodies to keep them from slipping back out of the way at the time of operation.

Dr. Whitman said it was a good method to have the patient assist. He is the only one who can bring the body into view and hold it there. In one case he had arranged to have a needle put in to fix the body. The needle would not go in; finally, it slipped and went into the knee. It was found and the patient held the upper part of it as well as he could, while the speaker cut through, and the foreign body was gotten out. The surgeon could not have done this without the patient's assistance. The trouble was caused by a piece of bone covered with cartilage. It was one inch long, and had troubled him for seven years.

The Chair said he had seen a number of these foreign bodies removed, by the method Dr. Gibney employed in private practice, which was with the assistance of the patient.

Dr. Gibney said he sometimes tied a string about them.

Snapping Hip.

Dr. A. B. Judson presented a case, a man, twenty-one years old. The right hip seems to be partially dislocated and reduced at will when he puts his weight on the limb, or, if lying down, when he pushes against something.

It might be called a snapping hip, as the motions are sudden and audible, reminding one of the way some persons can snap the main joint of the thumb or other digits. The patient can do this with his thumbs and with his right middle finger. Locomotion is not impaired except that he says he walks carefully and the hips have the appearance of being loose jointed. Has lately had a dull warm sensation in the hip, but has had no pain. There are no signs of joint disease or of dislocation of the femoral head from the acetabulum. The same thing has developed in the left hip, but in less degree. This condition has caused him some anxiety since its appearance a few months ago.

Dr. Judson said it was the first case he had ever seen. He was in hopes somebody had seen several of them, to throw light on them.

Dr. Ogilvy said he remembered distinctly a case presented at college. The patient was able to dislocate his hip backward; he could dislocate his jaw. He had practiced this, but did it once too often, and could not reduce it himself. The dislocation of the hip caused no pain, but that of jaw caused him so much that he would not attempt it again.

Dr. Gibney asked Dr. Judson whether he was going to treat the case, and how.

Dr. Judson said he had not considered it as pathologically a very serious condition. It reminded him of what happens when a boy snaps the main joint of the thumb out and back again with a cracking noise. This boy can do it with thumbs and right middle finger. Dr. Judson could not find any evidence of dislocation. Ileoischiatic line normal. No atrophy of limb Had not considered it serious, but brought it, thinking it of interest. The patient had been told not to dislocate the hip unnecessarily. He was peculiarly nervous. All day had made a great point of the burning sensation about the hip. Was more or less neurotic, no doubt. As to treating it locally, had no idea of doing anything; would be glad to know if it was considered necessary.

Dr. Townsend asked if there might not be a possibility of the violent contraction of certain fibres of the gluteus, back and forth, producing the condition. The hip did not seem to come out of joint.

Dr. Judson said that he supposed a careful study of dissections would show that the tendons of some of the digital muscles were over-relaxed, and others shortened, either structurally or spasmodically. Occurring in the digits, this was not of consequence, but may be when it occurs in such an important joint as the hip.

The Chair said he had in mind a case of a baby, two months old, who comes to the hospital with a snapping joint. It was first found in the left knee, and when the mother brought it back the following week it was discovered in the right. Partially immobilizing it by strapping had brought about a cure.

Dr. Townsend said he had seen a number of these cases. Had seen a colored girl who could dislocate either knee voluntarily. He had also seen a hip similar to this.

Dr. Judson asked if there had been a serious sequel to any of these cases.

Dr. Townsend said not to his knowledge.

The Chair said it seemed to him there was more the matter with this boy than the hip; he was peculiarly neurotic—hypersensitive.

A Case for Diagnosis.

Dr. V. Gibney presented a case for diagnosis, a woman, twenty-two years of age. Two years ago, about the eighth month of her pregnancy, she had severe pain, thought to be sciatic and produced by the fetus. Labor was brought on. Did not give any relief, and lameness has been persistent. She appeared at the clinic to-day and was not examined, but Dr. Gibney was told that she had been going about in this way for a year or so. An X-ray was produced and it looked a little like osteoarthritis. There are some bony growths.

Dr. Gibney showed X-rays of a case of senile arthritis which corresponds very closely with this.

The speaker said as the patient sat in a chair he had her try to unlace her shoe, and in place of getting up and turning her foot backwards, she bent the upper part of her column with great difficulty and got down to her shoestring to untie it. That was as far as he had gone. [Patient enters.]

Examination.—Leg flexed at about 110 degrees; abduction one-half to one-third normal arc, adduction very little. Almost complete extension. Limbs twenty-nine inches in length, a little outward rotation. Used crutch last year; for a year past had no crutch. Was better until six or seven months ago. Now has pain in thigh. No starting pains in sleep. Has been getting stiffer, with pain in thigh and knee. She has a fair range of motion.

Dr. Frauenthal said the case was likely to be gonorrheal from the acuteness of the attack, and from the amount of restriction of motion the woman has now.

The Chair said the X-ray seemed to him rather indefinite. Did not show as well as it should; possibly this was due to the printing,

Arthritis Deformans.

Dr. Jaeger showed a case, a man, twenty-eight years of age. Gives family history of rheumatism in both parents. Was perfectly well until seven years old, when he fell into a stream in the spring and was exposed to the cold air for over an hour, in his wet clothes. The exposure was followed within a few hours by a severe attack of articular rheumatism, affecting many joints. Was very ill for three weeks; after this period convalescence slowly set in and he had no further trouble until he was twenty years old. He then suffered another exposure to cold, which was followed by neuralgic pains in the neck. Soon a stiffness of the neck began to set in and it has been growing steadily worse. The pains continued, the spine gradually became rigid and bent forward. He has had, in the last seven or eight years, attacks of rheumatism in different joints, and now we find his whole spine absolutely stiff; there is a large rounded posterior curve, head is bent forward until chin almost touches sternum, the articulations of the ribs are affected and the thorax is immovable. His breathing is entirely abdominal.

Up to two years ago he had little, if any, treatment; then his physician tried to break up the adhesions in the neck, under slight anesthesia (chloroform). They went with a snap like the report of a pistol. The operation was followed by pain and almost total disability; a week later, a plaster-of-paris jacket with head spring was applied. The head spring interfered with his occupation, so he took it off about a year ago. Since then he has been getting worse.

A Taylor spinal brace with chin cup has now been applied. Patient also taking salicylates and iron with good results. An X-ray picture giving a lateral view of the cervical vertebræ is absolutely negative, as no bony changes can be noticed. This is a very interesting fact and corresponds with results obtained by some observers in contradistinction to others who have reproduced radiographs of similar cases showing extensive bony changes.

DR. MYERS said he thought generally in these cases the proper thing to do is to suspend the patient, and try to force the head and upper spine to a better position. A great many cases are treated in this way; they are left stiff, but in a more serviceable position. It is thought best, usually. to adopt this mode of treatment.

DR. NAPIER said he had seen a case of rheumatoid arthritis in the neck, at the County Hospital, as bad as this, if not worse. The patient was kept in bed for two or three months, with extension, which straightened him to some extent. This treatment was followed by the application of a spinal brace, which the speaker thought was indicated in this case. He thought if these patients would submit to extension in bed for some time they might be materially straightened.

DR. TOWNSEND asked Dr. Jaeger what form of brace he intended to put on.

DR. JAEGER said he would use the Taylor brace with chin cup.

DR. TOWNSEND said he had had a case, a girl, where the chin was as much depressed as this. He had succeeded in a short time, with the Taylor brace and chin piece, in bringing it into position.

DR. TAYLOR said Dr. Townsend was too modest. The case he mentioned was very unusual, a little girl seven or eight years old with a very marked case of stiffness of the spine; rheumatoid or osteoarthritis, he would not say which, positively, but the spine became stiff. This was relieved by a jacket. Afterward the neck became stiff, with frightful pain, and this condition was relieved by the application of the chin piece. In a day or two the chin piece could be removed and she could hold up her head without pain for a few moments. There was very marked and prompt relief.

DR. JAEGER asked if any of the members present had had his experience with the X-ray—whether the pictures showed as negatively as his in their cases. He said one would imagine, with that amount of stiffening, the picture would show something, but here the intervertebral discs were perfectly clear.

DR. FRAUENTHAL said he had had one exposure which showed evidence of inflammation; in that case the X-ray showed it distinctly.

DR. TAYLOR said he did not suppose there was any doubt in the minds of the Section as to the treatment of arthritis deformans, and wanted to know if that was the question. He could show that the treatment is very effective, and results prompt. A man was brought in a few weeks ago, not supposed to be able to walk. After the application of a jacket he walked in, easily, the next visit.

THE CHAIR said, as he understood it, Dr. Jaeger's case had received plaster-of-paris treatment. The jury mast was dispensed with on account of the man's vocation. He is now to be treated with the Taylor brace, with Sayre modification.

DR. TOWNSEND said that it had been reported that the man could not be treated at Schenectady because there was so much electricity where he was employed. He would suggest a plaster-of-paris collar, without steel, then the electricity would have no effect.

Adeno-Carcinoma of the Nose.

Wm. H. Dudley (*The Laryngoscope*, September, 1904) reports a case of adenocarcinoma occupying the nose and orbits and all of the accessory sinuses. The patient was a male, aged sixty-one years. He was under observation for two years and continued to live for at least four or five months after all cavities of his head, with the exception of the cranial, had become more or less filled with the carcinomatous mass. Autopsy showed that while the neoplasm encroached upon the cranial cavity in several places, the dura was intact throughout, though adherent to the tumor. Although the pressure must have been great upon the trigeminal, the patient complained of but little pain and the use of morphia was unnecessary. Several operations were made to relieve discomfort and remove projecting masses. Death occurred from exhaustion. C.R.H.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, JANUARY 14, 1905.

HUMAN AND BOVINE TUBERCULOSIS.

When Koch, in July, 1901, before the British Tuberculosis Congress, made the statement, after two years of experimentation, that human and bovine tuberculosis are absolutely different affections and that there was no intertransmissibility, he was assailed from all sides. Many eminent men of almost equal standing to Koch at once took issue with him, and sought to establish the proof of their claims—indeed, have apparently done so to the satisfaction of all. Prominent among the critics has been Von Behring, who, at the Congress of Natural Scientists, held at Kassel, in September of last year, took the stand not only that human and bovine tuberculosis are identical, but that the chief source for the development of tuberculosis is the cow's milk of nurslings.

To support the position of Koch—and his experiments are quoted at this time only on account of the high standing of the investigator—comes Kitasato, of Tokio. The latter states that it is a matter of common knowledge that Japanese cattle are free from tuberculosis, while imported and mixed types readily contract the disease. For the purpose of determining the behavior of the native cattle and of the mixed types of bovines toward tuberculosis, a series of the usual injection experiments with sufficiently virulent human tubercle bacilli was instituted. Kitasato, as a result of his investigations and experiments, has drawn a number of interesting conclusions. He does not regard human tuberculosis as less common in Japan than in the civilized countries of Europe and America, and he believes primary intestinal tuberculosis to be relatively common in children and adults, although in the former cow's milk is little if at all used as an article of diet; indeed, the average daily consumption of cow's milk in Japan is not quite three centimeters per capita.

Furthermore, there are large areas in Japan where human tuberculosis exists in no small degree, yet the native cattle remain absolutely free from infection. This is a fact of considerable importance, borne out as it is by slaughter house statistics, for it shows that under ordinary circumstances human tuberculosis is not infectious for bovines, as there can be no question but that the latter are frequently exposed to infection through careless habits on the part of their owners. Even injection experiments are unsatisfactory. Large doses of human tubercle bacilli, if injected intravenously and intraperitoneally, produce tuberculosis to a limited degree, but if the injection is made subcutaneously no effect is produced; they are insusceptible to subcutaneous inoculation. On the other hand, the imported and mixed races of animals used in the experiments were readily infected.

As has been already said, primary intestinal tuberculosis is not at all infrequent in Japan, notwithstanding the fact that but little cow's milk is used as a beverage, and still less in nourishing children. Since the native cattle are not infected, and even if they were their flesh and milk are but little used as articles of diet, we must conclude that human tuberculosis, in Japan at least, can only be transmitted from man to man. Again, as Japanese cattle are free from tuberculosis, and are almost insusceptible to it, it must be admitted that bovine tuberculosis was imported into Japan after the introduction of foreign cattle. Kitasato also states that if human tuberculosis did not differ from bovine tuberculosis it would not be possible to find districts in which bovines were absolutely free of tubercular involvement, regardless of intimate contact with tuberculous humans who necessarily are constantly affording the domestic animals opportunity to infect themselves. In conclusion we quote this paragraph.

> "On account of these reasons it is impossible to trace the tuberculous infection of man back to cow's milk respecting bovine tuberculosis and therefore I must subscribe to the opinion of Koch and say that the danger of the conveyance of tuberculosis from man to man occupies first place. Concerning the views of von Behring in relation to the mode of infection, I must confess that by us in Japan the milk fed to nursing infants (cow's milk) cannot play a rôle in the contraction of tuberculosis."

This article, coming as it does from a bacteriologist of world-wide reputation, is practically certain to reopen the unfortunate discussion. It lends ammunition to Koch and his followers of which perhaps they never dreamed, but truth is truth, and if there exist a human and bovine tuberculosis, non-intertransmissible, it is of paramount importance for us all to know it, and we must welcome every fact that will lead us in the right direction.

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THE TREATMENT OF MALIGNANT DISEASE.

Any advances or new ideas along the line of malignant disease must be regarded with interest. Lately, in his Bradshaw lecture,[1] Mayo Robson makes a number of interesting statements. He believes that while carcinoma is not to be regarded as an infection as we ordinarily use the term, a number of facts lead us almost inevitably to the conclusion that it is at least locally of an infectious nature; and, furthermore, that it is possible for infection to take place both through contact and inoculation. It cannot but be admitted at this late day that it is auto-infective, and it is for that reason that incomplete operations are dangerous, because a redistribution of cancerous foci are prone to establish new areas of disease. It is, therefore, advised that there should be no preliminary incision in the removal of carcinomatous growths where this procedure is possible, and in addition the neighboring lymph-glands should also be removed, widely, if possible in the same piece with the tumor, and without rupture. Where diagnosis is doubtful and incision is made to ascertain the nature of the tumor mass, it is advisable to close the wound by suture and to re-prepare entirely for operation.

Robson treats rather fully of so-called pre-cancerous conditions, or those circumstances that experience has led us to believe predispose to or are followed by cancer; such conditions as continued irritation of the mouth by a pipe, or the scrotum by soot, or the stomach by an ulcer. Warts, eczema, sebaceous tumors, ulcers, scars, etc., may well be classified as pre-cancerous conditions. We have but to mention the close relationship existing between gall-stones and cancer of the gall-bladder, between any pathological condition of the female breast or uterus and cancer of these organs, to outline what is now being generally accepted as the proper treatment—not to wait for the cancer to develop, but to radically remove any foreign structure that might predispose in any way to the formation of a malignant growth.

Abbe,[2] even more recently, emphasizes the statements of Robson. He says that while there still remain many discouraging features in our treatment of cancer, yet progress must be admitted in several important directions:

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[1] British Medical Journal, December 3, 1904.

[2] Medical Record, December 31, 1904.

1. The *principle* that malignant growths are at least primarily of local origin is becoming more and more recognized, hence the earlier the operation the greater the liability of permanent cure.

2. The importance of increasing by extensive operation, especially in the width of skin excision and the thorough removal of suspected or infected lymphatic glands.

3. Radiotherapy.

Abbe is particularly impressed with the importance of this latter method of treatment, while admitting that the recorded results leave much to be desired. He summarizes the situation by saying that we have gained both knowledge and hope. In conclusion he says: "From radium we may expect the greatest future results, for it alone may be used in deep structural disease, and with a promise of a large production of strong radium in Austria, the next year will reveal further fruits of research and treatment."

BOSTON MEDICAL LIBRARY 1906

EDITORIAL NOTES.

Three drug clerks, recently arrested for the illegal selling of cocaine, were fined $100 each and costs and warned that if again convicted the fine would be $500, the maximum amount.

Dr. J. W. Miller, 7 East Eighth Street, has been appointed district physician by the Board of Public Service in place of Dr. Wm. Muhlberg, who has left the city to take up the practice of medicine in Colorado Springs.

Dr. Charles Dabney, President of the University of Cincinnati, who was the essayist of the evening at the local Academy last Monday night, expressed the hope that there would be a consolidation of the various medical colleges of this city, and the establishment of a large medical school.

Report of the Bureau of Infectious and Contagious Diseases for the week ending January 6, 1905:

Disease.	Cases.	Deaths.
Measles	3	0
Diphtheria	10	1
Scarlet Fever	12	1
Typhoid Fever	16	4

The Endowment Fund Association of the University of Cincinnati.—Mr. D. S. Oliver, President of the Endowment Fund Association of the University of Cincinnati, issues the following:

Cincinnati, O., Jan. 10, 1905.

To the Alumni and Friends of the University of Cincinnati:

The University of Cincinnati is supported in part by money raised by taxation, in part by the income from the property devised by Charles McMicken and in part by funds derived from other sources.

The donations and bequests to the University in the past have not been as large as is desired. It is thought by some that the unwillingness on the part of the friends of the University to make contributions has arisen from an indisposition to give money that would be administered by the ever-changing public authorities of the city of Cincinnati. In order to meet this objection, about six years ago a private corporation was incorporated under the laws of the State of Ohio and called "The Endowment Fund Association of the University of Cincinnati." This is a private corporation under the management of nine trustees who are alumni and who are elected by the alumni of the University. The object of the association is expressed in the third article of its Articles of Incorporation, which reads as follows:

"Third. The purpose for which said corporation is formed is to create, hold and manage a Collegiate Endowment Fund, to be applied to the promotion of collegiate education at the University of Cincinnati, in said county, and State, at such time and in such manner as said corporation shall determine; to accept and take as trustee, and in trust for the promotion of collegiate education, at the said University of Cincinati, any estate, property and funds which may be legally transferred to it for such use by any person or body corporate having the same; or any annuity or endowment in the nature of income which may be covenanted or pledged to it towards such use, by any person or body corporate, and to hold and apply such estate, property, funds or income in accordance with the terms and true intent of any trust or conditions upon which the same may be given."

It will thus be perceived that this corporation is legally empowered to receive donations, bequests and devises, and to administer the same free from any control by the public authorities of the city of Cincinnati. Its officers would be glad to confer with anyone interested.

Yours truly,
D. S. OLIVER, President.
FRANK HANNAFORD, Secretary.

F. W. LANGDON, M.D. **Nervous and Mental Diseases.** D. I. WOLFSTEIN, M.D.

Association of Contrasted Obsessions with States of Melancholia.

The basis of the ideo-obsessive constitution is the existence of the scrupulo-inquiet character. The possessor of such a character is prone to worry about trifles, is apt to be inordinately scrupulous and relatively undecided about his acts and affairs. He is never sure of himself or of the regularity of his decisions. It is just this scrupulo-inquiet character which is the groundwork, therefore, for the pschyopathic ideo-obsessive constitution, and the *psychose ideo-obsessive*.

Besides these essential obsessive states, there exist systematic obsessive ideas and representations, accompanying another neuro-psychic type; for instance, the hysteric or epileptic, or serving as one of the accessory phenomena of some psychosis (dementia precox, general paralysis, etc.)

The ideo-obsessive constitutiou is often in combination with temporary accessions of melancholia. The evolution of melancholia in the terrain of the ideo-obsessive constitution gives a special clinical picture of melancholia, with obsessive ideas.

In these cases of melancholia the history will usually show the existence of this *caractére scrupulo-inquiet*. In many cases where this character was primarily present the accession of the melancholia brings about the existence of obsessive psychic states of contrary type.

The patient is forced to utter words, or employ language often obscene and unnatural, *contrary to his own wishes and ideas*.

A most interesting case is cited. If extreme effort was made to dissipate these ideas, or forced language, as by prayer even, the content of the obsession took the nature of a contrary obsession, though fully aware that he desired just the reverse. Not only were there false auditive representations, but visual as well, usually very evanescent, taking the most grotesque and disgusting forms.

In other words, there were conjured up by this obsessive state visual and auditive representations which were forced upon the mind of the patient, and of whose false nature he had thorough cognition, though powerless to prevent them.

In this case there was marked depression, combined with a mass of obsessive representations and ideas, recognized as such by the patient. All the obscene words vexed, oppressed, and agitated the patient, and were considered as something strange and apart from him; secondly, there was the contrast with his own ideas even during prayer, or when effort was made to think or act otherwise, these obscene and indecent ideas were most numerous; further, these obsessions were most often associated with those he most loved.

The author draws the following conclusions:

1. In certain cases of melancholic states one observes contrasting obsessions most markedly expressed; one such connection of psychic symptoms may be encountered in the course of the periodic melancholia of *folie circularire*, or even in alcoholic melancholia; most often this symptom-complex is observed in recurrent melancholia, with psychic obsessive states.

2. In these cases one may establish the

presence of the *caractère scrupulo-inquiet* as one of the forms (the simplest) of the ideo-obessive constitution.

3. Often in the co-existence of the melancholia state with contrasted psychic obsessive associations, the clearness and the intensity of the obsessive representations can appear in such degree that the latter, already invested with a sensorial coloring, may lead to the formation of a hallucinatory and illusory form of obsession. D. I. W

Quantitative and Qualitative Leucocyte Counts in Various Forms of Mental Disease.

Bruce and Peebles (*Journal of Mental Science*, July, 1904, Vol. l, No. 210).

This article embodies the result of careful, laborious and extended investigations, and appears to us to be most trustworthy. They take as a normal percentage in controlmen the following:

	Per cent.	Women.
Polymorphnuclear	70 0	60 0
Small lymphocytes	20.5	30.5
Large lymphocytes	8.0	7.5
Eosinophiles	1 5	2.0
Mostzellen	½ to 1.0	......

Acute Melancholia.—Here there was never a leucocytosis. If in an early stage of melancholia a hyperleucocytosis was observed, they made a guarded prognosis.

Excited Melancholia.—When examined early, usually a high count was obtained. Polynuclear above 70 per cent.; leucocytes 11,000 to 17,000. Later on this would be respectively 80 per cent. and 20,000 to 30,000. The onset of a relapse would often be preceded by a fall to or below the normal. With the increase in excitement there is an increased leucocytosis, as also percentage of the polynuclears.

Acute Continuous Mania.—The leucocytosis resembles that of excited melancholia; the hyperleucocytosis often persists after recovery. In cases which do not recover and become chronic, the leucocytosis falls, and the percentage of polynuclears also to 50 per cent. or less. If the chronic cases eventually should recover, there is a rise in both the above factors.

A point of practical importance is here indicated, for a low count of whites less than 10,000 and a low per cent. of the polynuclears means a bad prognosis. The leucocytosis may be artificially raised by injecting 1 to 2 c.c. of turpentine into the flanks; this procedure has also been followed by rapid recovery.

Recurring Mental Excitement.—(Folie circulaire.) All the cases exhibited depression or excitement of the simple mania or melancholia forms. In the depressed, invariably, high leucocytosis, polynuclears 60 to 80 per cent. During beginning of excitement fall of leucocytes, polynuclears also, to about 50 per cent. As the excitement increases a rise in both these factors was observed. Two typical cases were discharged with very high leucocytosis and high per cent. of polynuclears.

These observations point strongly to the fact that the depression and excitement of cases of "folie circulaire" are quite different from ordinary attacks of mania and melancholia.

Cases of Recurrent Mania.—(Exclusive of the alcoholic cases). Here there is a rise of both leucocytosis and per cent. of polynuclears. The rise occurs gradually as the attack supervenes, and falls slightly as it passes off. The per cent. of polynuclears follows the general curve of the hyperleucocytosis. One of their cases suffered from severe intercurrent facial erysipelas. It showed hyperleucocytosis, 28,000, per cent. of polynuclears 89. Following this illness there was a cessation of mental attacks for four months.

Alcoholic Insanity.—No case of delirium tremens was examined, but the leucocytosis of acute continuous mania (alcoholic origin) was identical in every detail with the non-alcoholic variety. They look upon the alcohol merely as an exciting cause, breaking down the resisting power of a patient hereditarily predisposed to this type of insanity.

Hebephrenia.—The findings here were variable for the most part, leucocytosis 12,000 to 14.000, but often marked hyperleucocytosis, without increase of polynuclears, but an increase of large monuclears. Only one case recovered; here the leucocytosis was never above 14,000, and fell to normal on recovery.

Delusional Insanity.—These cases, whether of paranoia, or occurring later in life, were always entirely free from hyperleucocytosis.

Progressive Paralysis.—At the onset there was a high per cent. of polynuclears and hyperleucocytosis. During the second stage, especially if there was a febrile attack, there would be a rise. In the third stage there was generally a variable leucocytosis, 30,000 to 10 000, but usually a low per cent. of polynuclears—40 per cent. If recovery or marked remission ensued there was a return to normal figures.

Epilepsy.—Every case, either during or between attacks, has shown a hyperleucocytosis.

Puerperal Insanity.—The leucocytosis does not differ from that of acute mania.

Lactational Insanity.—This shows conditions as in ordinary anemic women.

Conclusions.—With the exception of one variety of melancholia and all cases of delusional insanity, all types of acute mental disease present more or less the conditions of hyperleucocytosis, with persistence after recovery. Difference in the character of the corpuscles is very marked, being large and well-formed in young, strong patients, smaller and staining badly in the old or debilitated. Large lymphocytes (uncommon in healthy blood) are frequent in various forms of mental disease, but most markedly found in hebephrenia, catatonia, recurrent mania and in any case which is much debilitated.

D. I. W.

Anesthesia with Dreams and Nightmare.

In an hysterical patient, *totally anesthetic*, the moment the eyes were closed either during sleep or when closed by the observer all sorts of dreams, especially those of frightful character, accompanied by sensations of danger, personal damage and great sense of fear, would ensue. These would disappear as soon as the eyes were open. The author does not consider the condition as due to senambulism or to hypnosis, but thinks there is a direct connection between this dreamy state and the anesthesia.

The patient was a total anesthetic; all external sensation was lost, and she was forced to rely upon *sight*, the only sense left for information from without. She had no notion of time or space, except through sight; she lived by means of this one sense. The patient said, as soon as her eyes were closed, "I no longer see, I do not know were I am, I am suffocating, I am dying."

With closed eyes she is incapable of a thought, of a conscious movement; she can bear and move her members, and can raise herself from the bed, but unconsciously, it would appear. One might say all connections, cerebro-bulbar and cerebro-spinal, are abolished. She is reduced to the elementary reflex state, and it is because she has no other perception of consciousness, be it external or internal, that she knows not what she does, that she believes she no longer exists.

The dreams are the result of this absence of perception. In the normal state the sensation of well-being is determined by the equilibrium, the harmony of organic functions; destroy this and two conditions present—either the subject is awake and then has a clear perception, consciousness of the anomaly of function he suffers and can localize his suffering; or he sleeps and then can only have an obscure perception, subconscious, of his suffering; associations, more or less *bizarre*, form themselves, and the result is a nightmare, more or less violent.

In this concrete case the patient was not asleep, but there is no way to differentiate this pseudo-wakefulness from pseudo-sleep, except that in the one case the eyes are open, in the other shut.

Being an anesthetic, however, she had in neither case any clear perceptions. This state is neither wakefulness nor sleep, properly speaking. There is suspended activity of the cortical centres.

This is the state which Sollier has called *vigilambulisme*, thus differentiating it both from normal sleep and from hypnotic sleep. In this case all the nightmares were built around one sensation, viz., the fear of falling, the fear of suffocation. The patient having lost her sensation, cutaneous, muscular and osseous, to the extent that no peripheric impressions were received, and not seeing her body, she felt this sensation of falling (*de chute*) which everyone has experienced. No visceral sensations coming from the lungs, not feeling the air enter, she believed she would suffocate; as one does not fall or suffocate without reason, she associated these sensations, which (to speak correctly) were not sensations, but the interpretations of absent sensation which should normally exist, with the ordinary causes of falling or suffocation—as precipices, falling walls, phantoms which strangled her, etc.

With these came terror, all the more intense to the patient on account of her general anesthesia, which rendered her incapable of escaping from the causes of death. She could not escape without opening her eyes, then she had visual proof that it was the sport of a dream, but she did not feel it, but established *by vision* the absence of the causes which had worried her, and with these disappeared all the subjective conceptions to which these had given place.

Why could not patient spontaneously open her eyes? This the author also explains, not satisfactorily, on the basis of anesthesia and loss of muscular sense. The author thinks his case, when analyzed, shows a state of psychic and somatic deficiency, not to be associated with either normal or hypnotic sleep, but to a differentiated state, called vigilambulism by Sollier.

Anesthesia is a primodial phenomenon of hysteria; this it is which dominates all the phenomena of this neurosis. The more complete the anesthesia, the more pronounced were these nightmares.

Indeed, in a foot note, the writer shows that there has been marked amelioration. The writer's summary is that the condition described in his case warrants the conclusion that the phenomena exibited were the manifestations of a psychic state, created, of one piece, by the anesthesia.

D. I. W.

Dementia Precox.

The proceedings of the Fourteenth Congress of Alienists and Neurologists of France and the French Possessions, held at Pau, August 1 to 7, 1904, Prof. Brissaud presiding (*Archive de Neurologie* Vol. xvii, September, 1904, No. 105), were extremely interesting. but it is not possible to report on all of them here in detail. The subject of dementia precox was the special topic for discussion, and the disease as described by Kraepelin was presented to the Congress by Deny.

Kraepelin's views were ably defended, and Deny believes that it is as distinct a form of dementia as is that of general paralysis, or senile dementia, and he considers it a morbid entity The intellectual deficit is first manifested in an elective manner, affecting the emotional and moral sides, rather than the voluntary activity, or the higher intellectual faculties proper.

Apathy and indifference are its earmarks; later comes disorder of volition and motorial activity. Characteristic is the progressive weakening of the intellectual faculties, to which is usually joined states of depression or excitement, or confused stupor, or delirious conceptions. This intellectual reduction in dementia precox has characteristics which clearly distinguish it from the other well-defined dementias.

Automatic motor activity is nearly always preserved—in fact, even exaggerated; *the power to arrest it is weakened or lost.* The combination of diminished voluntary activity and uncontrolled automatic activity is the basis of the syndrome catatonique.

There is either negativism, with a negative activity, or manifestations of the suggestible state may take the form of undue imitative activity (catalepsy, echolalia, echomimia, echopraxia). These two groups of phenomena are in affinity and may co-exist alternately.

They are underlaid by an identical psychic process, namely, disorder of voluntary activity, with simultaneous persistence of a certain unregulated automatic activity. The modifications in the intellectual sphere are shown by lack of attention, loss of memory, of reflection, judgment, and assciation of ideas,

The foundation-stone of the malady is this primary intellectual enfeeblement. Without hallucination, without excitement or depression, this intellectual reduction constitutes the simple type of dementia precox (forme simple—Sérieux).

Hebephrenia, catatonia, or paraneid states occurring in connection with the dementia precox are superimposed conditions. Deny thinks the *délire polymorphe des dégénérés*, the *délire d'emblee* of the French, the acute paranoia of the Germans, are closely allied—in fact, should be considered as identical with the varied systematic delusions and hallucinations of dementia precox.

In catatonia especially do we see these persistent types of systematic delusions. When interrogated during remissions or lucid intervals, as to their reasons for their negativism, stereotypy or imitation, the patients either gave insignificant answers or they denied the possession of all *desire* or *volition*.

Deny agrees with Séglas that the only plausible explanation of the syndrome catatonique is to be sought in the passivity of the mind, slowness of the psychic processes, and the progressive mental reduction.

Physical Signs.—These are not well defined. Nearly all writers on dementia precox mention exaggeration of the tendon reflexes, especially in states of stupor or semi-stupor. On the other hand, in many cases the cutaneous reflexes are abolished. The pupils show great variation in the light and accommodation reflexes as well as occasional change of the contour.

Cyanosis and coldness of the extremities, localized edemas, pseudo-edemas, alternate emaciation and obesity coming on rapidly without appreciable cause (Séglas), dermo grafism, are all mentioned. The semeiological value of the physical signs is not great.

Deny thinks they are more marked and numerous than in other psychoses, and when taken in their *ensemble*, they may contribute somewhat towards a diagnosis. Deny now discusses the justification for the nosological autonomy of dementia precox, its symtomatological autonomy being well defined.

Is dementia precox an accidental or constitutional psychosis? Viewed from the standpoint of causation, two factors are in sharp outline:

1. The existence in the majority of cases of unquestioned hereditary taint—neuro-psychopathic ancestors.

2. That there is strong probability of an autotoxic process being the responsible causative element. This auto-intoxication arises either from disturbance of the sexual glands, or some functional insufficiency of the ductless glands.

Whilst conceding the role of heredity and predisposition, Deny has nothing better than generalizations to offer for the theory of auto intoxication. Deny himself is disappointed in his efforts to support the nosologic autonomy of dementia precox on etiologic evidence, and appeals to pathology for assistance.

Klippel and Lhermitte have shown profound alterations of the cortical ganglion cells and their prolongations, and although these changes occur in other dementias and psychoses, Deny maintains justly that it is just in this cortical terrain wherein the toxic processes must exert their power for deleterious action.

Klippel and Lhermitte admit that there is also a certain amount of neurogliar proliferation, as described by Alzheimer, Nissl, and others, but would relegate it to second place. Deny considers the pathological findings in dementia precox analogous (not to say identical) with those of mental confusion, and the polyneuritic psychosis (Korsakoff). "One notes the same integrity of the meninges and vessels, the same absence of notable lesions of the neuroglia, The same special localization of the process in the nerve cell."

Deny thinks these findings justify us in removing dementia precox from the group of degenerative psychoses, and placing it, after Kraepelin, with the mental maladies due to auto-intoxication.

The continuous, though slow, evolution of this toxic process, acting step by step in its invasion of psychic territory, and not ceasing until great or complete mental reduction occurs, pleads for the action of some poison, probably of glandular origin, upon the brain grey, especially its zones of association.

Space is insufficient to trace all of Deny's arguments. He thinks, however, that first, the dementias which are consecutive to mania and melancholia; second, to the degenerative psychoses (*délire d'emble, délire polymorthe*, or acute paranoia); third, to the chronic systematized delusions, are all best considered as belonging to the domain of dementia precox (Kraepelin).

We cite from Deny as follows: Judgment of the grade of the intellectual level underlying the chronic systematized delusionary forms must be dependent upon the content of the delusion. These are almost always based on hypochondriac ideas, or those of persecution or grandeur, and these do not develop unless there is congenital or acquired, temporary or permanent, mental reduction. This is shown by their frequency among imbeciles and the debilitated and demented of all species, though many authors insist on the different characteristics, as these are present in these latter, or in paranoia.

The apparent logical continuity and systematization of the delusions, and the high mental level therefore deduced, is built upon a scaffolding really very fragile and uncertain. Deny thinks that even at their best these delusions, apparently systematized, point to a low mental capacity. Further, a frequent termination of the usual systematized delusional types is dementia, and here Deny defines dementia as do the Germans, to mean weak-mindedness (*Swachsinn*), and not as the complete or ultimate phase of intellectual bankruptcy.

Based, therefore, on pathologic findings, as well as upon clinical analysis, Deny denies the existence of vesanic or secondary dementias. "Dementia, no matter what its origin," says Nissl, "has always a demonstrable anatomic substratum. All are organic and differ among themselves only as does the intensity of the destructive process of the cortex."

Perhaps a better knowledge of the localization of the areas attacked by this process of destruction will some day explain the variance in types. Deny considers that the ancient grouping of the secondary dementias should be no longer maintained in our psychiatric classifications.

From this old grouping the dementias described as terminal stages of mania and melancholia should disappear, inasmuch as mania and melancholia have lost their autonomy amony modern psychoses. As for the two other groups of vesanic or secondary dementias, those consecutive to the assumed degenerative psychoses and those consecutive to the systematized types, these should be grouped under the rubric of dementia precox, and are therefore *primary*, not secondary dementias.

In conclusion, Deny takes advanced position upon anatomical grounds, and essays the provisional classification of the organic dementias (formerly comprised under the vesanic dementias) as follows: (*a*) Those due to lesions circumscribed, solitary or multiple; (*b*) those due to lesions diffuse and acutely generalized, and again subdivides this latter class into further groups, according as the lesions are acute or chronic, reparative and destructive.

As for the spirited discussions which followed Deny's paper, we must refer to the original report, as also for the account of many other themes which are not fitted for review. D. I. W.

Phobia of Inspection.

Hartenberg (*Archive de Neurologie*, Vol. xvii, September, 1904. No. 105).

In this contribution, Hartenberg describes the phobia of inspection, especially that form which results in aversion to the exposure of the face to the public view. He describes the emotional excitement and unexplainable sensations, always resulting when the sufferers have to support the fixed gaze of others. The natural consequence of this fear is to avoid as much as possible the necessity of exposing the face. Either these occasions are avoided altogether, or all kinds of expedients are adopted to avoid inspection, such as covering the face with a veil, or with the hands, or standing in the shadows, or, if these cannot be adopted, the face is held expressionless, or some artificial expression of countenance, or even tics, are adopted. Others, again, will always wear blue glasses.

The basis of this phobia is timidity, and these subjects always present the symptoms of this social infirmity, which probably arises from the fear of being found mal-formed or ridiculous, and results in an excessive feeling of *shame*. When it is confined merely to fear inspection of the face, or even the eyes alone, Hartenberg thinks it is rather because they feel that the inspection of these parts is a sort of profanation, constituting a violation of their conscience.

He contrasts this phobia sharply with the phobia of blushing. The victims of this inspection phobia never blush, or, if they do, are unconcerned about the blushing. It is merely the exposition of the naked face, or of the eyes, to others, which is the cause of their inquietude.

The history of two very interesting cases is given, which Hartenberg considers very typical examples of the malady. Summarizing the condition, this phobia is a morbid fear ingrafted on the mental state of timidity, similar to the phobia of blushing, but entirely distinct from the latter. It is a particular form of the class of social phobias. D. I. W.

Frequency and Distribution of Nevi Among the Insane.

Féré and Moroux (*Archive de Neurologie*, Vol. xvii, September, 1904, No. 105).

This article discusses the conditon named in the title, and is a study of the various forms as they occur in the various types of the insane. The conclusions at which they arrive show similar conditions here to those met with in sane subjects.

They do not support the theory of Bouchard that there is any connection between the occurrence of these cutaneous affections and disease of the liver.

D. I. W.

Obsessions and Sexual Life.

Marandon de Montyel (*Archive de Neurologie*, No. 106) makes a study of obsessions, based upon Freud's hypothesis that the basis of most of these is some abnormality, perversion, or incompleteness in the sexual life of the individual.

The writer quotes three cases *in extenso*, and makes a plea for objective study of this group of cases. He handles his material *sans gene*. It is impossible to give the details of the comprehensive and varied sexual experiences of the cases cited, but de Montyel is certainly to be praised for the painfully accurate histories which he has obtained of a side of life not usually turned to the light.

He reaches conclusions opposed to those of Freud, but thinks that many obsessions are traceable to disorder in the sexual relations. To those who desire to enrich their stock of knowledge in the field of sexual perversion the article is commended.

D. I. W.

Otology.

C. R. HOLMES, M.D.

Pseudomembranous Angina of Syphilis and Diphtheritic Angina.

R. R. Campbell, Chicago (*Journal of the American Medical Association*, November 19, 1904), considers the differential diagnosis between pseudomembranous angina of syphilis and diphtheritic angina. He says buccopharyngeal syphilis and diphtheria may cause the formation of false membranes, the appearances of which are identical. A chancre of the tonsil may assume a pseudomembranous appearance and be accompanied by well-pronounced general phenomena. Our diagnosis should always be based on the results obtained from culture tests. A third element which may enter into the diagnosis is the angina produced by Vincent's fusiform bacillus. After recounting illustrative cases, Campbell concludes: First, that pseudomembranous syphilitic anginæ are not rare; second, the differential diagnosis cannot always be made from the clinical picture; third, culture test and the microscope should be employed in all suspected cases; fourth, in all cases where we are highly suspicious of diphtheria antitoxin should be used promptly.

Neurofibroma of the Acoustic Nerve.

J. Frankel and J. Ramsey Hunt, New York (*Annals of Surgery*, September, 1904), reported to the New York Neurological Society two cases of neurofibroma of the acoustic nerve. The first case was in a Russian Jew, aged forty-two years. Onset six years before with tinnitus aurium and slowly progressive diminution of hearing in left ear; two years later a tendency to stagger, occipital headaches, vertiginous seizures and fainting spells. Marked disturbance of gait and equilibrium. Deafness in left ear. Severe occipital and frontal headaches with vertigo. Cerebellar and peduncular ataxia, with a tendency to fall backward and to the left. Double optic neuritis. Lateral nystagmus. Dilated and unequal pupils. Dysarthria. Paresthesia and objective sensory disturbances in the distribution of the left fifth nerve. Paresis of the left seventh with electrical changes. The occipital bone was trephined to the left of the median line below the lateral sinus. The finger was passed along the inferior surface of the cerebellum to the tumor, which occupied the triangular space formed by the juction of the pons, medulla and cerebellum. It was broken up and removed in fragments by digital manipulation. Death occurred twelve hours later from cardiac and respiratory failure.

The second case was in an American, male, aged forty-eight years. Disease began five years ago with progressive diminution of hearing on right side. One year later difficulty of locomotion. Right lower extremity affected first. One year later increase of locomotor difficulty; gait of drunken man. Transient diplopia and propulsion. Since two years, impairment of vision and difficulty of speech. Ataxia. Since one year sphincteric difficulties. On examination static and locomotor ataxia; falls and inclines to left side; tenderness in right mastoid region; some mental apathy; stammering speech; bilateral choked disc; nystagmus; paralysis of right side of face; motor paresis and spasticity of extremities of left side; some spasticity of right side and marked right-sided ataxia. Preliminary craniotomy was performed. Patient died forty-eight hours after operation apparently in coma. The post-mortem inspection demonstrated the tumor in expected locality. The histories of the patients, the symptomatology, the details of the operations and the autopsies, with the histological examinations, both macroscopic and microscopic, are given in minute detail.

The authors come to the following conclusions:

"1. We believe that the acoustic tumor syndrome is well defined, and that the diagnosis can be made with practical certainty.

"2. The slow and essentially benign nature of the growth, its non-infiltrating character and enucleability would all favor surgical interference.

"3. The deep situation at the base in immediate proximity to vital centres offers very serious obstacles.

"From personal observation we believe that the surgical technique should be perfected along the following lines: (*a*) The avoidance of undue concussion in the removal of the bone and enlargement of trephine opening; (*b*) a method of extirpation by which the tumor could be removed without undue minipulation of the surrounding parts; (*c*) the division into stages as recommended by Horsley, and celerity of execution."

The study of the literature of this subject is unsatisfactory, because most of the cases are recorded under the heading of cerebellar tumors. The authors succeeded in collecting from the literature six other cases which present the clinical and pathological characteristics of the acoustic neuroma, and give quite full abstracts of them. Five excellent plates from photographs accompany the article.

Thrombosis of the Jugular Bulb.

Carl Koller, New York (*Archives of Otology*, October, 1904), presented an interesting case of thrombosis of the jugular bulb before the New York Academy of Medicine. The disease occurred in the person of a girl, aged twenty-one. After suffering for two weeks from an acute otitis the patient presented unmistakable signs of thrombophlebitis—high fever, tenderness over the course of the sigmoid sinus and the jugular and a papillitis. Operation failed to find positive evidence of thrombosis of the sinus or the vein. There were only slight signs of an affection of the mastoid and no perisinuous abscess. The septic course of the disease continued, and ten days later a secondary operation was undertaken. The sinus was found thrombosed. Upon curetting, the bleeding from the region of the bulb was not satisfactory. The jugular vein was not thrombosed, but was ligated and excised. A culture of the thrombus was sterile. At the first dressing pus welled from the lower end of the sinus. Ten days later an abscess appeared in the upper third of the posterior cervical triangle; this evidently communicated with the jugular bulb. A week later an abscess between the deep muscles of the neck near the base of the occiput was opened and drained, revealing denuded bone. Ten days later an abscess was found very deeply situated near the jugular bulb. After this spastic symptoms disappeared, but hypoglossal nerve paralysis supervened and persisted for several months.

Koller says he regards this case as one of primary phlebitis of the jugular bulb due to direct extension from the tympanic cavity. He calls attention to the unusual symptoms of wry-neck, dysphagia and disturbed sensation of taste and mobility of the tongue. In concluding he says: "Considering that the function of the ninth, tenth and eleventh nerves leaving the skull through the foramen lacerum in close proximity to the jugular bulb were disturbed, and that the twelfth leaving through the condyloid foramen was paralyzed, it may not be too much to assume that the periphlebitic abscess was responsible for the trouble, just in the same way as we sometimes see facial paralysis in cases of otitis media."

NEVER inject more than four ounces at a time into the bladder, and that only with care.—*Med. Snmmary.*

The Lancet-Clinic

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A CRITICISM OF RECENT SURGICAL LITERATURE ON DISEASES OF THE STOMACH.*

BY HENRY WALD BETTMANN, M.D.,
CINCINNATI.

> "True conservatism in medicine implies saving of life by the least dangerous methods, without mutilation, if possible; and it never seeks to avoid efficient means of treatment."—A. REEVES JACKSON.

> "In abdominal surgery responsibility seems to have become old-fashioned and gone out of date."—THOMAS KEITH.

In 1891 D. A. Reeves Jackson, then President of the American Gynecological Society, felt called upon to choose for the subject of the annual address the abuses which the rapid development of pelvic surgery had called into being. He spoke of the surgical enthusiasm which followed the pioneer work of Emmet, Battey and others. "Men were seized," he said, "with a sort of mania for extirpating the female pelvic organs. . . . Operators eager for fame found willing victims for mutilation on every hand. . . . . No one doubts that very much unnecessary and reckless surgery was performed. . . . It is a surgical crime to perform a serious, mutilating and dangerous operation which may be avoided by other safer treatment."

Jackson especially called attention to the practice then prevalent of "publishing hasty and immature reports of surgical work;" and speaking further of crude conclusions, he adds that "when neither patience nor conscientiousness are taken into service great harm may come to the cause of scientific advancement. . . .When fallacies and partial conclusions are published broadcast, immense injury to truth and science may ensue."

Members of the Academy, we are threatened with a repetition of history in a new field. Gastric surgery has become popular, and the next decade will witness its marvellous development. Much unnecessary operating will be done, many specious reputations will be made, and many valuable lives will be needlessly sacrificed. Gastric surgery will soon be exploited with all the recklessness that marked the development of pelvic surgery.

Every honest member of the profession

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* Read before the Academy of Medicine of Cincinnati, December 19, 1904.

is eager that gastric surgery should rapidly find its proper sphere of usefulness, and much good has already been accomplished by the application of surgical methods to certain hitherto fatal or incurable gastric diseases. Only by the earnest and conscientious coöperation of physicians and surgeons can the desired advance be made. I speak with perfect frankness in saying that many recent surgical utterances are of such a character that they call forth not coöperation, but a vigorous protest from the medical profession; and I believe that the whole trend of modern surgical thought in relation to the stomach is teeming with fallacies and unripe judgments. I take the liberty of calling your attention to the following critical review of recent surgical literature.

Before going further into details, I will state that the general trend of surgical literature is to the effect that ulcer of the stomach is a very common disease; that it is often overlooked; that when treated medically it is attended with great mortality; that it is the usual forerunner of cancer; and that surgery offers a safe and almost sure cure of the symptoms of ulcer and a preventive of its complications.

THE PREVALENCE OF ULCER OF THE STOMACH IN AMERICA HAS BEEN GROSSLY EXAGGERATED.

It seems that surgeons have not tried to compile reliable statistics bearing on the frequency of ulcer in America, but have contented themselves with copying a few figures from Riegel's text-book and from each other. Mayo quotes one American and four foreign authors, showing a frequency of from 2.7 per cent. to 13 per cent. Reed quotes from Mayo. Wathen says 5 per cent. of all people dying have an active ulcer or scar at the time of death. Murphy says 4 per cent. to 5 per cent. of the race suffer from gastric ulcer. These estimates are far too high for America.

In the first 1,000 autopsies at the Johns Hopkins Hospital only 9 cases of ulcer were found, or 0 9 per cent. Welch, in 800 autopsies in New York, found 6 open ulcers. or 0.75 per cent.; Harlow Brooks, in 1,000 consecutive autopsies at Bellevue, found only 9 ulcers or scars, or 0.9 per cent. Howard collected statistics from the autopsy records of ten representative American hospitals, and found that in 1.32 per cent. there was either an ulcer or scar. Only two hospitals showed a per cent. above 1.5. Judging from autopsy findings, therefore, it seems that in America an ulcer or scar is found in a little more than 1 per cent. of all cases.

Now, there is no doubt that gastric ulcers of slight extent often occur and heal without producing symptoms marked enough to cause the patient to consult a physician (Brooks, p. 681). We therefore note in all hospital records that the percentage of clinical cases of ulcer is very small, as compared with the autopsy record just quoted.

In fifteen years in the Johns Hopkins Hospital only 82 cases of ulcer were admitted out of a total of 44,338 admissions, or 0.18 per cent. In fifteen other hospitals in America out of 161,599 medical admissions there were 930 cases of ulcer, or 0.57 per cent. Only one hospital showed more than 1 per cent. In fifteen years in the Cincinnati Hospital, out of 27,567 medical admissions, there were only 24 cases of ulcer, or 0.08 per cent.

As a result of these figures, we should hear no more, in America at least, that from 5 to 13 per cent. of our population suffer from gastric ulcer. A discount of 75 to 90 per cent. should be allowed from the lower figure.

THE MORTALITY FROM GASTRIC ULCER HAS BEEN SINGULARLY MISREPRESENTED.

Murphy says that 4 per cent. to 5 per cent. of all people have gastric ulcer, and that one-fifth of these die as the result of the ulceration. This is obviously absurd. Mayo quotes Tricomi, who says that 20 to 25 per cent. will die under medical treatment; and Débove and Rémond, who state that 25 per cent. die directly from the lesion, and 25 per cent. from complications. Robson and Moynihan state that the mortality of gastric ulcer treated medically is at least 20 per cent. Reed quotes Mayo's figures. Hamilton says the medical mortality of gastric ulcer of chronic type is from 30 to 50 per cent.

That these figures should be carelessly copied by one writer after another without analysis is typical of much modern surgical literature on the stomach. The figures, so far as the treatment of private patients is concerned, have no meaning at all. Three gastric scars are found at autopsy to one open ulcer. Débove and Rémond's statistics include tuberculosis as a complication of gastric ulcer, and nearly 40 per cent. of their deaths occurred from tuberculosis or other disease, not at all connected with the ulcer. Four per cent. of Fenwick's private patients suffering from gastric ulcer died as a result of the ulcer. Leube, out of 556 cases thoroughly treated, lost 2.4 per cent.; 96 per cent. have been cured or greatly relieved. Saundby lost one in 200 cases, and Fleiner not one in over 300 cases. In the City Hospital of Cincinnati three deaths have occurred in fifteen years as a result of gastric ulcer. A mortality of 20 to 50 per cent., therefore, is a fanciful figure quoted chiefly for rhetorical effect.[1]

SURGICAL LITERATURE ABOUNDS IN GROTESQUE PATHOLOGY.

Mayo says: "We must have more treatment and less pathology."

Wathen tells us that "in most cases of chronic gastric ulcer the stomach is in a permanently crippled condition."

Reed tells that "occasionally there is a downward displacement of the stomach, gastroptosis, in which the stomach hangs by its pyloric attachment."

McGraw tells us that "when the duodenum becomes filled the further evacuation of the stomach is inhibited." Furthermore, "when the vomit assumes a green hue we know that the disorganization of the stomach has begun, and when black that it is nearly completed." He also says that many tumors of the pylorus are fibrous or adenomatous.

These few quotations would seem to justify the conclusion that we should have more pathology and less surgery.

SURGICAL WRITERS HAVE PECULIAR VIEWS ON THE SUBJECT OF MEDICAL DIAGNOSIS.

"Recently," says Haggard, professor of gynecology, "chronic dyspepsia has been found to be dependent upon gastric ulcer and its complications, such as pyloric obstruction." Haggard has possibly overlooked Cruveilhier's classical description of chronic gastric ulcer, written between 1829 and 1835, and other articles by other clinicians published since that date.

"Until recently," writes Wathen, professor of gynecology, "and even now with few exceptions nearly all chronic diseases of the stomach and upper abdominal cavity have been treated empirically by giving such medicinal, dietetic and hygienic treatment as the subjective symptoms seemed to indicate, occasionally analyzing the stomach secretions so as to apply any absent chemical constituent (*sic*). Hence, the frequent organic lesions that yield only to surgery were not diagnosed until advanced cancerous development or until the disease had progressed too far to be cured by either the physician or the surgeon, and, *as we daily see in our mortuary reports, these patients fill an untimely grave.* (Italics mine.)

How vain, according to this account, have been the labors of Kussmaul, Leube, Ewald, Riegel, Einhorn! Wathen says, furthermore, that the abdominal surgeons will very soon teach us how to make a pathological and surgical diagnosis of gastric ulcer.

Reed, professor of gynecology, thinks that, among other instruments, the stomach-tube and the stomach-bucket are not without some value, and that they "are to be accepted as the expression of a desire to arrive at accuracy in the diagnosis of what, heretofore, has been a very obscure subject." By *heretofore*, Reed means before the advent of gastric surgery. Reed also thinks the text-book symptomatology, as well as the instrumentarium, is very confusing. This train of thought has the virtue of simplicity. When confused either by inexperience or otherwise, and in doubt regarding the interpretation of the symptoms and signs, make an exploratory incision. Then do not guess, as the internist, forsooth, must, but actually see, as the surgeon actually may.

"And if," says McGraw, "on opening the abdomen the surgeon finds that the case is not one of obstruction, he should examine the stomach to see whether a displacement causes a bend, or if an ulcer has produced unusual symptoms," etc., etc. McGraw gives no instructions for procedure in case the surgeon has made a mistake.

"But it is a misfortune of surgical progress," says Mayo, "that neurasthenic symptoms are too often taken for organic disease." The misfortune, it seems to me, is rather the patient's who is submitted to an unnecessary operation.

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[1] It is true that in hospital cases, when the after treatment is neglected or inadequate, the mortality becomes much greater.

Internists agree that the diagnosis of ulcer of the stomach is sometimes difficult or even impossible. When the ulcer produces no symptoms there is no occasion for diagnosis; when the symptoms yield readily to appropriate treatment, the diagnosis is often overlooked. In severe cases the diagnosis can nearly always be made by attention to the clinical history, the physical and chemical signs, or by therapeutic tests (ulcer-cure, milk diet, bed rest).

Surgeons have been at much pains to throw discredit upon the medical diagnosis of gastric ulcer.

"The chemical and microscopic diagnosis of the gastric contents proved of little value," says Mayo. "The refinements of technical diagnosis are often useless and occasionally harmful in causing delay."

Wathen says that "hyperchlorhydria and hypochlorhydria are of secondary importance as diagnostic factors."

Haggard says "the difficulty about the recognition of ulcer and cancer in its early stages has been increased rather than simplified by the elaborate chemical and other tests which we have been led to believe are so essential to diagnosis and so difficult of performance."

It is not possible in this paper to deal with the difficulties of differential diagnosis. Nevertheless, it seems fitting to state here that all the recent surgical literature has not brought forth one single item of information or one point of view not clearly set forth in medical writings. Riegel, who discovered the frequency of hyperchlorhydria in chronic ulcer, recognized its limitations. Mayo elsewhere says: "There is no doubt that perverted stomach secretion is the most important manifestation in the majority of cases. *This is shown by the almost constant association of excessive secretion in ulcer.*" (Italics mine.) Moynihan, in a report of 100 operated cases, reports that in every case in which pain was present hyperchlorhydia could be demonstrated.

Why, then, should the surgeons be at such pains to disparage the value of so constant and striking a diagnostic aid? Why not call attention rather to the real aid offered by this sign, and also by points of tenderness in the epigastrium and along the spine; to the value of the detection of occult hemorrhages by careful examination of the stools, as described by Boas, Hartmann, Rossel, Schmilinsky; to the diagnostic value of a rest cure, a milk diet, and the administration of orthoform? The answer is that it is easier to make an exploratory incision than to indulge in the laborious "refinements of diagnosis," and that it requires less knowledge, less skill and less experience.

The one lesson we are expected to learn is to submit our patients to early exploratory laparotomy. "If not too much attention is given to fanciful methods," says Reed, "a reliable presumptive diagnosis, one justifying exploration, can be done by any practitioner." Not judgment, not experience, not skill—above all, not laboratory technique—that seems to be the surgical cry. "With the few simple means at his command," says Mayo, "the sensible practitioner is able to tell whether to send his patient to a surgeon or not." That is the milk in the cocoanut. Out of 1,200 patients examined by Mayo, 400 were operated on. Jackson, paraphrasing Hebra, says it may be necessary to have surgical geniuses, but "never let a surgical genius decide upon the necessity for an operation, for the work of such a person is likely to be better than his judgment."

A SHORT CHAPTER ON GARBLED QUOTATIONS AND GRATUITOUS STATEMENTS IN SURGICAL LITERATURE.

Reed says we are told by internists that there is no such thing as a tumor in benign ulcer. Mayo says "there is a general tendency to believe that all palpable tumors of the stomach are malignant." Reed says, further, that "we are told that belching is absent, or if present is without bad odor in all conditions except cancer;" also, "that six writers on general medicine imply but do not assert that bloody vomit is the one pathognomonic sign of ulcer of the stomach, and in the absence of which ulcer does not exist." Reed also quotes from an unnamed specialist "that organic changes in the stomach, aside from malignancy, are very rare." It would be a matter of interest to know the dates of the text-books consulted by surgeons in their study of the present state of internal medicine.

Mayo thinks that cases of chronic dyspepsia not due to ulcer, gall stones or appendicitis are reduced to a small proportion. Reed thinks that even the majority of cases of hyperchlorhydria are due to ulcer. Yet we are told by Einhorn that the majority of patients who come to him for relief have hyperchlorhydria.

Mayo says "there is hardly a question connected with ulcer of the stomach which is not in dispute. The many theories prove the paucity of facts." Alas! that the labors of scores of clinicians and pathologists from Cruveilhier to Fenwick should be esteemed so lightly.

SURGEONS HAVE VIEWS ON THE RELATION OF GASTRIC ULCER AND CANCER, WHICH ARE NOT BORNE OUT BY FACTS.

Wathen says: "Cancer is usually the subsequent change in an ulcer. Dr. Mayo diagnoses his cases and operates in the precancerous stage."

Murphy says: "The manifestations of carcinomata, unless in the rarest possible circumstance, have implanted themselves on a train of gastric symptoms that have existed for months and even years."

Mayo says: "My colleague, Dr. Graham, in 125 cases of cancer found a good ulcer history preceding cancer in 60 per cent. of the cases, but in many cases years had elapsed between the ulcer and the cancer."

This statement of Mayo has been widely quoted. It is sincerely to be regretted that in the large number of articles by Mayo no details on this subject have been made public. No judgment can be formed regarding his extraordinary conclusion until we know what Dr. Graham has accepted as a "good ulcer history.'

Mayo quotes Lebert to the effect that 9 per cent. of ulcers become cancerous, but, says Mayo, "most observers place cancer-grafting upon an ulcer base much higher."

Let us see what most observers have actually said in this connection.

Lebert really said not that 9 per cent. of ulcers became cancerous, but that 9 per cent. of cancers were engrafted on ulcer. This is probably what Mayo meant. Rosenheim estimates that about 6 per cent. of cancers originate in an ulcer. Haberlin estimates the percentage at 2 or 3 per cent. Only two cases of change from ulcer to cancer have been observed in an enormous service of forty years in the autopsy-room of the London hospitals. Only three cases of the kind are recorded in the "Transactions of the Pathological Society of London." Mayo himself has seen but two cases. In the Johns Hopkins Hospital especial care was bestowed upon this point, and in no autopsy could a relation between ulcer and cancer be positively demonstrated.

So much for pathological findings. That gastric ulcer may become cancerous was fully described by Brinton, fifty years ago; the microscopic changes were thoroughly described by Hauser, over twenty years ago. The surgeons have added nothing to the subject but exaggeration.

From the standpoint of the best clinical observers, the same conclusion is necessitated. Of 150 cases of cancer carefully observed and studied by Osler and McCrea, only 4 had a history pointing to ulcer. In none of these could such a condition be positively diagnosed.

As a rule, says Riegel, carcinoma develops in individuals hitherto healthy. A careful study of the history will nearly always reveal the fact that the cancer patients have been healthy up to the time of their immediate illness. The history of a long preceding chronic gastric catarrh is hardly ever obtained. Carcinoma of the stomach, says Boas, begins during a period of perfect health. Leube attaches to this feature great diagnostic importance.

The most complete studies of the relation between gastric ulcer and cancer have been made by Borrmann and by Hirschfeld. Borrmann studied sixty-three specimens removed by Mikulicz. In no case could a cancerous metamorphosis be seen. Hirschfeld reviewed the whole literature of the subject and the hospital statistics of Vienna, Munich, Berlin, Hamburg, Zurich and Kiel, and has conclusively shown that *ulcer patients are not more predisposed to cancer than other persons of the same age*. Osler, also, has said that "the victims of chronic dyspepsia and the various forms of gastritis are not more prone to malignant disease than other individuals."

Let us hear no more, then, of "operations in the precancerous stage," a term which has caught the fancy of gastric surgeons. Let us hear no more of the operative prevention of cancer of the stomach. Let us rather limit our enthusiasm to matters of fact. That ulcers may sometimes become cancerous seems undoubted. The frequency of such change has been grossly exaggerated. It is not clear how gastro-enterostomy could prevent the metamorphosis.

INDICATIONS FOR OPERATING, THE RESULTS OF OPERATIONS AND THE FUROR OPERANDI.

Acute perforation of the stomach should always be operated on as soon as the diagnosis is made, or even seems probable. This conclusion at the present day is accepted by all, and the arguments for it are absolutely conclusive. Operations for chronic ulcer, however, are rarely made for the immediate saving of life. "Acute perforation and fatal hemorrhage are not common in chronic ulcer," says Mayo.

The chronic ulcer is usually referred to the surgeon because of repeated hemorrhages, uncontrollable pain, or of pyloric obstruction with resultant dilatation and semi-starvation. Severe hemorrhages in acute ulcers have also frequently led to surgical interference. The determination to operate should be based on three factors:

1. The prognosis of the case, without an operation, under medical treatment.
2. The danger of the operation itself.
3. The probability of relief that the operation will afford.

Unless the surgeon is fully educated on all of these points he is not in a position to form a worthy opinion. It is not the object of this paper to discuss the indications for gastric surgery. I do wish, however, to emphasize the fact that those surgeons who have shown themselves most unfamiliar with the pathology, clinical history and proper treament of gastric ulcer have expressed themselves most recklessly on the subject of its surgical treatment.

Regarding the prognosis of gastric ulcer under the care of competent clinicians, there prevail very erroneous notions. Proper treatment in the great majority of cases will not only relieve all symptoms, *but proper treatment begun early will in nearly all instances prevent such complications as may later call for surgical interference.* The recent discussion of gastric surgery should teach at least one lesson, and that is that the early exact diagnosis of gastric disorders and their appropriate treatment have been neglected, and call for—not more surgery, but better medical education in the future.

Fleiner says that during more than ten years in the treatment of over 300 cases of gastric ulcer he has had no instances of fatal perforation or hemorrhage, no uncontrollable vomiting, no case of inanition—in fact, no fatal result in any case. Twenty-seven of these cases (or 9 per cent.) were submitted to surgical treatment. Professor R. Saundby reported at the meeting of the British Medical Association, in July, 1903, that he had had only one death in 200 cases of gastric ulcer under his own treatment. As cited before, we have had three deaths from gastric ulcer in fifteen years in the City Hospital of Cincinnati. My own casebook shows only one death from gastric ulcer (case of perforation) in nearly ten years of special practice. Especially should it be remembered by the surgeons that hemorrhages in acute ulcers in young women are rarely fatal.

Ewald, who is a strong believer in surgical interference in appropriate cases (and who is not?), says we should treat our patients with every possible medical means before referring them to the surgeon; and that we must individualize and should consider ten times before we send a patient to the operating table once.

In the light of the above experience, shall we judge that a surgeon is even reasonably conservative who out of 1,200 patients, operated on 400, with a mortality of 7 per cent. in over 200 gastro-enterostomies for benign conditions? Shall we call that surgeon's judgment worthy of confidence who advises that patients not cured in five or six weeks should be operated on? McGraw says: "He who operates as I have done in all stages of obstruction cannot fail to lose many patients. It is a question whether it pays to operate in cases so desperate that only now and then one recovers."

Is it fair to our patients to say, as McGraw has said, that "gastro-enterostomy is an operation not in itself dangerous?"

Mayo had a mortality of 7 per cent. in benign cases. Moynihan has reported a mortality of only 2 per cent. in 100 cases. But it is clear that the average mortality must greatly exceed these figures. A study of the reports presented by surgeons in America and Europe will show an average mortality in benign cases ranging from 5 to 25 per cent.

Is it fair to our patients to say, as Reed has said, that "the subsequent history of operated cases is *almost invariably* that of a normal appetite, painless digestion, rapid increase in weight and prompt return to the ordinary activities of life?"

In twenty cases of pyloroplasty Mayo had to re-operate seven times, or in 35 per cent. "Our results," says Mayo, in "operation for chronic ulcer without mechanical obstruction have not been wholly satisfactory and furnish a considerable percentage of secondary operations and failures to relieve." Mayo further says that "cases of atonic dilatation in neurasthenic individuals as a rule are not benefited by operation."

Lately attention has been called to the occurrence of peptic ulcers in the jejunum following gastro enterostomy. Robson has collected sixteen cases, and of these six were fatal; others were followed by long periods of dangerous illness. All these occurred in benign conditions. Robson, with characteristic fairness, says that probably many other fatal cases due to the same cause have escaped recognition. He concludes, as a result of a very large surgical experience, that in cases of gastric ulcer that have failed to yield to medical treatment, and in which gastro-enterostomy has been performed, we have not properly grasped the fact that the operation is, though an important one, still only an incident in the treatment which ought to be continued on general lines for some time longer or until good health is again established."

A few words regarding pyloric stenosis and cancer may not be omitted. "A few simple means" will not suffice to determine the indications in a case of pyloric obstruction. No other class of cases requires such experience, insight and painstaking care for their correct treatment. A large proportion of cases of apparent organic pyloric stenosis are in reality functional, and a certain amount of functional stenosis causes every organic stricture to seem greater than it is. Every experienced clinician in this field has seen cases of apparently organic stricture yield completely to proper treatment, and Sahli is correct in saying that lavage and diet can secure gastric drainage in many cases as thoroughly and more safely than surgery.

Regarding cancer, few words need be said. Many cancer patients suffer little pain. No operation on a patient having cancer of the stomach is without danger. Before undertaking an operation it is well to bear fully in mind the probable course of the disease without operation, and the probable benefit by means of operation. To operate in most cases with tumor will certainly add to the suffering of many patients.

In conclusion, let me say that the writing of this paper has been a very uncongenial task. To seem to stand in the way of surgical progress is certainly an unenviable position. I am heartily in accord with the proper advances of gastric surgery; nevertheless, I believe firmly that our profession and our patients will both benefit by an avoidance of recklessness and a return to sanity and truth. Permit me to summarize the following conclusions:

1. In America, about 1 per cent. of the population present a gastric ulcer or scar in the autopsy-room. As a clinical disease, not more than 0.2 per cent. of all patients (not medical patients only) suffer from gastric ulcer.

2. Under appropriate treatment the severer complications of gastric ulcer can be largely prevented.

3. The mortality from gastric ulcer is grossly exaggerated in surgical literature, and under proper medical treatment will not exceed 4 per cent. in all classes of private patients.

4. The American surgical literature on gastric ulcer abounds in exaggeration, crudeness and recklessness.

5. That gastric ulcer predisposes to gastric cancer to any marked degree is improbable. That the majority of cancers are preceded by ulcers is certainly untrue. That gastro-enterostomy would prevent such metamorphosis has not been demonstrated.

6. Gastro-enterostomy has a certain mortality. It often fails to relieve gastric disorders due to ulcer. It should be followed by careful dietetic treatment. It may lead to fatal complications irrespective of the primary disease.

7. Pyloric obstruction is not in itself an indication for surgical interference. Many cases recover under medical treatment.

8. Our patients will be best served if they submit to proper medical treatment.

and seek surgical advice only at the suggestion of their medical attendant.

ARTICLES REFERRED TO IN THIS PAPER.

Mayo: "Chronic Ulcer of the Stomach and Duodenum," etc., Cleveland Medical Journal, February, 1904.

Mayo: "The Association of Surgical Lesions in the Upper Abdomen," Journ. Am. Med. Ass., June 11, 1904.

Mayo: "A Review of 303 Operations Upon the Stomach," etc., Annals of Surgery, July, 1903. See also St. Paul Med. Journal, February, 1904.

Haggard: "Stomach Surgery at the Mayo Clinic," Southern Practitioner, October, 1904.

McGraw: "Practical Considerations on Intestinal Anastomosis," American Medicine, October 3, 1903.

Wathen: "Surgery of the Stomach," Journ. Am. Med. Ass., May 14, 1904.

C. A. L. Reed: "A Typical Cure of 'Chronic Dyspepsia,'" etc. American Medicine, November 5, 1904; also Lancet-Clinic, November 26, 1904; also N. Y. Med. Journal, November, 1904.

W. H. Welch: "Pepper's System," 1885, Vol. ii, p. 485.

J. B. Murphy: "On the Results Obtainable by Operative Measures in Affections of the Stomach," Annals of Surgery, 1903.

C. P. Howard: "A Study of Ulcer of the Stomach and Duodenum," Am. Jour of Med. Sc , December, 1904.

C. P. Howard: "The Incidence of Gastric Ulcer in America," Med. News, October 8, 1904.

Harlow Brooks: "The Pathological Anatomy of Gastric Ulcer," Med. News, October 8, 1904.

Fenwick: "Ulcer of the Stomach and Duodenum," Philadelphia, 1900.

Saundby: Med. Record, 1903. August 15.

Fleiner: Congress f. innere Medicin, Wiesbaden, 1902, p. 92.

Moynihan: "Gastro-Enterostomy for Gastric Ulcer," Annals of Surgery, May, 1904.

Osler and McCrae: "Cancer of the Stomach," Philadelphia, 1900.

Borrmann: "Das Wachstum und die Verbreitungsweise des Magencarcinoms," Jena, 1891.

Hirschfeld: "Die Beziehung zwischen Magengeschwür und Magenkrebs," Congress f. innere Medicin, Wiesbaden, 1902, p. 279–289.

Robson: "Peptic Ulcer of the Jejunum," Annals of Surgery, August, 1904.

TENTOTOMY OF THE TENDO-ACHILLES IN PARTIAL AMPUTATIONS OF THE FOOT, ALSO IN OBLIQUE, COMPOUND AND COMMINUTED FRACTURES OF THE TIBIA AND FIBULA.*

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My object in writing on this subject is to *emphasize* that which, in my opinion, should be an important part of our technique, but which is too often overlooked by some, and has never been heard of by others. I am satisfied from my observation and inquiries that it is rarely taken advantage of.

I visited Prof. Dennis' clinic, in 1897, and saw him perform six or eight tenotomies of the tendo-Achilles in oblique fractures of the tibia and fibula. *This*, he informed me, was his routine practice. Since that time I have made quite general use of it, always performing a tenotomy in partial amputations of the foot, and dressing the foot in the exaggerated flexed position, thus preventing heel retraction and greatly lessening retraction of the flap or flaps.

In oblique fractures of the tibia, whether simple, compound or comminuted, when tenotomy of the tendo-Achilles *is* performed, nearly all tendency toward shortening is prevented, the foot more easily kept in proper position, and there is also less danger of splint-pressure necrosis, especially at the instep and the back part of the heel, caused by the powerful contraction of the tendon.

After tentotomy of the tendo-Achilles I have never had a patient walk on the end of the stump or the cicatrix, which is too often the rule and not the exception where the tentotomy is not performed.

When the amputation is complete, the sutures in, and the stump ready for dressing, I perform the tentotomy.

In looking over the literature on this subject I find but *very* little, some authors barely mentioning it. After a careful perusal of a large number of surgeries and journals, I found a very interesting article by Dr. Liston, in the *Lancet*, 1838, pp. 421-423, on tenotomy of the tendo-Achilles to lessen or overcome the deformity of club-foot, and a few references on tenotomy in the Chopart and Pirogoff amputations.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11–13, 1904.

Mr. Liston states that "Delpech might justly be considered the founder of the operation of dividing the tendo-Achilles for the cure of club foot. He mentions several cases of varus in his "Chirurgie Clinique," and described his mode of curing them, in which one or more cases were cured by the section of the tendon. He made a longitudinal incision on each side of the tendon, through which he slipped his knife and divided the tendon from before backward.

In 1837 and 1838 a great number of cases of section of the tendo-Achilles were reported by such operators as Stromeyer, Diefenbach, Guerin and Dr. Little, who called varus by an odd and long-sounding name—"talipes equino-varus."

In many cases met with the heel was much elevated owing to the unnatural shortness of the gastrocnemius and soleus. Sometimes, in the deformity called "horse-foot," the patient rested on the distal extremities of the metatarsal bones. Many varieties of apparatus were recommended by such men as Scarpa, Delpeth, and Mr. Colles, of Dublin, and after years of use might effect a cure. But there was always much opposition from the contracted state of the tendo Achilles, *which, when divided*, accelerated the cure.

Horses were subject to an acquired deformity in which they walked on the point of the hoof. Veterinarians had long been in the habit of cutting across the flexor tendons for the relief of this state. They were not particular as to the mode in which they performed the operation, but just drew the knife across the leg and brought the foot in proper position, when the tendons soon united, even though in some cases there was a space of *three or four inches* between the ends of the tendons. New matter, resembling the original tissue, soon filled in the space and the cure was completed. From reasoning out these facts, Delpach was induced, in 1816, to resort to tenotomy of the tendo Achilles, but he did it awkwardly.

Liston performed the operation many times subcutaneously, either with a small bistoury, or, what was better, a needle somewhat resembling a cataract needle. This he did with scarcely a perceptible external wound. The tendon was first felt for, and, being found, the instrument was passed close to it, between it and the bone, where there were no nerves or blood-vessels likely to be wounded. The point of the instrument was then turned toward the tendon, which was tickled through and divided gradually. The division was indicated by an audible snap. There was a slight effusion of blood internally about the divided ends of the tendon, but there were no external signs of injury, no swelling, inflammation or its sequelæ. The extremities of the tendon soon poured out plastic matter, and this uniting medium, at the expiration of ten days, might be assisted by means of a device for this purpose, and in six to eight weeks the foot might be brought to the natural position."

Kocher's Operative Surgery, 1894, page 257, states "that the Chopart amputation has often resulted in a bad stump owing to the equinous position of the foot, and chafing at the anterior lower circumference of the calcaneus. The best preventive measures for this are to attach the dorsal and flexor tendons to the stump, prophylactic tentotomy of the tendo-Achilles, and care for the healing by first intention." In describing the Pirogoff operation the same author suggests "prophylactic tentotomy of the tendo-Achilles as a first step in that operation."

Senn, "Practical Surgery," p. 1092, speaking of the Chopart amputation, states that "the difficulty heretofore connected with the medio-tarsal amputation has been in preventing the retraction of the heel. Subcutaneous section of the tendo-Achilles has been practiced repeatedly, either at the time of the operation or later, after retraction has set in, but results did not fulfill the expectations. During the last four or five years I have succeeded in preventing heel retraction by suturing the cut flexor and extensor tendons over the head of the astragalus, with a row of strong catgut sutures, as an aid to the tendon sutures. I have supported the heel by a posterior plastic splint, or applied a plaster-of-paris splint over the dressing, extending from stump to knee."

Ashurst's "Surgery," Vol. ii, p. 660, speaks of the Chopart amputation in this wise: "In patients who have submitted to the Chopart amputation, contraction of the muscles of the calf, by drawing the heel upward when the patient begins to walk, may be prevented by bandaging the leg from above downward; but the division of the tendo-Achilles may accasionally be required."

"International Surgery" (Warren and Gould), Vol. i, p. 344, under Chopart and the Lisfranc amputations, states that "the stumps left after these operations are fairly serviceable, but a tenotomy of the tendo-Achilles may be necessary to prevent contractures, due to the weakened resistance to the pull of the great muscles of the calf." Under the Pirogoff amputation the authors state "that the tenotomy of the tendo-Achilles is always necessary, and may be performed as a preliminary step."

I quote from an article by Professor Vulpius on "The Healing Process in Linear Tenotomy," from the *New York Medical and Philadelphia Medical Journal*, September 10, 1904:

"The opinions concerning the healing process after a tenotomy were very contradictory at first, but of late some authors have brought light into this subject. Immediately after an injury a primary process of regeneration begins, by means of which a connective tissue forms which starts from the external and internal sheath of the tendon. To this is added, beginning only after several days to a week, a secondary process of regeneration of the tendon. The latter swells and shows microscopically many mitoses, not only in the region of the injury, but farther out, centrally and peripherally. Gradually young tendon fibres start from here and form bundles, and through this new formation the connective tissue is replaced step by step. Thus the continuity of the tendon is regained anew, but the process is an extremely slow one. We have no specimen which gives us evidence of the definitely terminated healing process, and it also seems that the repair of the tendons in an anatomical sense is not ideal, as is also borne out by our clinical observations. We are not seldom called upon to perform later on extensive secondary tendon operations after former tenotomies, and regularly we find that the tendon shows a somewhat scar-like change at the site of the former injury, and that it does not show such a completely intact tendon sheath, nor is it so sharply defined from its surroundings as is normally the case."

I also quote from Zeigler's "Pathology:" "Divided tendons, if they do not suppurate, are united by connective tissue; this does not correspond exactly in structure with the original tendon, but is more like cicatricial tissue, with a grayish-white and somewhat duller appearance. Repair is effected by the proliferation of the tendon cells, and of the surrounding fibrous tissue."

Hektone and Reisman's "Pathology," 1901, p. 779, speaking of regeneration of the tendon, says: "In severed tendons that are not infected the ends are united by connectiive tissue, which is more like scar tissue, less glistening and more grayish than the tendon. Definite bundles are not formed, but the new-formed tissue fills up the interfascicular spaces. This process must be looked upon as that of the nature of functional regeneration. Both the tendon cells and the cells of the interfascicular tissue take part in this regeneration, but a greater part of the tissue comes from the latter."

I report the following cases to help us in arriving at more accurate methods in these unfortunate cases.

CASE I.

Crushing injury to the dorsal surface of the left foot. Amputation was performed by the Lisfranc method, with tenotomy of the tendo-Achilles; recovery, with apparent regeneration of the divided tendon, and a perfect fuuctional result.

Garret Clifford, aged fourteen, Irish, was brought to the Englewood Union Hospital with a crushing injury to the left foot, requiring amputation. The foot was amputated by Bauden's modification of the Lisfranc operation. The dorsal surface was so crushed that only a plantar flap could be secured. About half the skin on the plantar surface of each toe was included in the flap. This gave us a moderately loose flap when sutured in place. The flexor and extensor tendons were sutured over the ends of the sawed metatarsal bones. A moderate amount of gauze was applied over the stump, the patient was turned on the opposite side, and with a small tenotome the tendo-Achilles was divided subcutaneously, after which the wound was sealed with collodion. The foot was placed in the exaggerated flexed position for four weeks, being held by strips of adhesive plaster, extending around the foot and up the leg. The young man plays football and baseball, flexion and extension being perfect. The tendo-Achilles is of normal size throughout its entire length, and apparently regeneration has taken place, as its functional use is perfect.

CASE II.

Crushing injury to the dorsal surface of the left foot, close to the distal ends of the metatarsal bones. Amputation by Hey's modification of the Lisfranc operation. Tenotomy of the tendo-Achilles was performed with an apparent regeneration of the tendon and perfect functional result.

Dominick Verlotte, aged thirty, Italian, was brought to the Englewood Union Hospital, September 23, 1903, with the history of a steel rail having fallen on his foot and across the base of his great toe, crushing the tissue of the dorsal surface and the long bones. He refused operative treatment until September 28, when gangrene of all the toes was present. I amputated the foot by Hey's modification of the Lisfranc operation, but had very little hope of saving the foot. The patient made a very rapid recovery notwithstanding my doubtful prognosis. The flexor and extensor tendons were sutured over the stump and the flaps were sutured in place with silkworm-gut. The tendo-Achilles was now divided subcutaneously, after which the skin incision was sealed with collodion. The foot was kept in the exaggerated flexed position for four weeks. The patient made a good recovery and has perfect flexion and extension of the foot. The tendon is smooth and even throughout its entire length.

CASE III.

Crushing injury of both feet, requiring amputation of one leg, eight inches above the ankle joint, and partial amputation of the other foot by Bauden's modification of the Lisfranc operation. The tendo-Achilles was divided. Recovery and apparent regeneration of the tendon, and a perfect functional result.

Mr. W. R. Q., aged twenty-two, American, occupation fireman. The patient was brought to the Englewood Union Hospital May 15, 1903, with crushing injuries of both feet. The right leg was amputated eight inches above the ankle, and the left foot was amputated according to Bauden's modification of the Lisfranc operation, using a long plantar flap. The flexor and extensor tendons were sutured over the end of the stump. The flaps were sutured in place with silkworm-gut and dressing applied. The tendo-Achilles was divided subcutaneously and the skin incision healed with collodion. The foot was placed in the exaggerated flexed position and held there with broad strips of adhesive plaster. Primary union was complete at the end of four weeks. August 1, he was back at work firing. He wears a steel shank in his shoe which greatly aids him in walking, the tendon being apparently normal its entire length. The functional result is perfect.

CASE IV.

Compound comminuted fracture of the fibula, oblique fracture of the left tibia close to the ankle joint, with tenotomy of the tendo-Achilles. There is apparent regeneration of the tendon, with perfect functional result.

Mr. Chas. Trestler, aged fifty-six, Bohemian, employé of the Belt Railway, of Chicago, was brought to the Hospital St. Anthony de Padua, June 22, 1904, with a compound comminuted fracture of the left fibula and a simple oblique fracture of the tibia of the same leg. One or two small pieces of the splintered fibula were removed, after which the leg was placed in a fracture box. I did not see the leg until the tenth day, when I found an overriding of the fragments of the tibia and considerable contraction of the tendon was present. I did a subcutaneous tenotomy of the tendo-Achilles and sealed the incision with collodion. The foot was placed in the exaggerated flexed position and a plaster-of-paris cast applied, with a fenestrum over the point of fracture. He made a slow recovery with some slight shortening of the leg. The tendon is smooth and of normal size Its function has not been interfered with by the tenotomy.

CASE V.

Compound oblique fracture of the tibia with a comminuted fracture of the fibula.

Wiring and nailing of the tibia. Tenotomy of the tendo-Achilles to prevent deformity and shortening. Recovery with functional use of the tendon.

Mr. J. Fitzgibbons, aged forty, Irish, weight 309 pounds, locomotive engineer for the Belt Railroad of Chicago, was brought to the Englewood Union Hospital, April 1, 1903. On examination I found a compound oblique fracture of the right tibia and a comminuted fracture of the fibula. I nailed and wired together the fractured fragments of the tibia and performed a tenotomy of the tendo-Achilles, sealing the wound with collodion. The foot was placed in a slightly exaggerated flexed position and a plaster cast applied. The patient made a slow but satisfactory recovery, with an apparent regeneration of the tendon and a perfect functional result, enabling him to return to his former occupation.

CASE VI.

Crushing injury to left foot. Foot amputated by Bauden's method. Tenotomy of the tendo-Achilles. Apparent regeneration of the tendon is taking place and he is regaining functional uses of the tendon.

C. T., aged twenty-five, switchman. While attempting to climb on a car made a misstep and the wheel of an empty car passed over his foot. He was taken to St. Ann's Hospital, August, 1904. It was found to be impossible to save the foot. We did a partial amputation by Bauden's modification of the Lisfranc method, using a plantar flap. The flap was stitched in position with silkworm-gut. The patient was now placed on the opposite side and a subcutaneous tenotomy of the tendo-Achilles performed. The skin wound was closed with collodion. Primary union of the flap, and tenotomy wound. At the present time flexion and extension are perfect, and apparent regeneration of the tendon has taken place.

CONCLUSIONS.

1. It is a well established clinical fact that after a tenotomy of the tendo-Achilles (when the foot is kept at rest) a process of repair does take place and satisfactory functional use of the foot is the result.
2. It is much easier to maintain the foot in the exaggerated flexed position after the tenotomy of the tendo-Achilles than with any form of splint, anterior or posterior, metallic or plaster.
3. There is much less pain, as the foot and ankle joints are placed at absolute rest.
4. When the patient commences to walk none of the resistance of the contracted heel cord is present, so there is but a slight limp.
5. In oblique and comminuted fractures of the tibia there is much less danger of overriding of the fragments of bone after a tenotomy. This greatly simplifies the care of the leg and helps to prevent deformity.

THE RADIOGRAM IN ORTHOPEDIC DIAGNOSIS.*

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There is some divergence of opinion regarding the reliability of the information to be obtained by means of the X-ray picture. Lorenz considers the X-ray picture of no great importance in the exact diagnosis of congenital dislocation of the hip, while Schede considered it invaluable for this purpose. The negative which reveals to one observer an incipient joint tuberculosis, shows to another nothing abnormal. One concludes from a lateral view of a knee that the X-ray shows no gross lesion, and the frontal view, which one neglected to make at first, shows a very great loss of substance. These are not exceptional occurrences, but are happenings of some frequency.

It is not the purpose of this paper to attempt to reconcile these differences, but rather to demonstrate, by examples, the great utility of the X-ray in the practice of orthopedic surgery. As a preliminary to this, however, there must be some understanding as to what may be expected of this method, and in what way errors which pertain to it may be reduced to a minimum. Furthermore, it is to be shown that by means of certain improvements in technique, X ray photography has been made much more practical and the possibility of technical error greatly reduced. I say "X-ray photography," for I wish at the outset to be understood as holding that for the purposes of orthopedic diagnosis, the fluoroscopic method is of little or no value.

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* Read before the Academy of Medicine of Cincinnati, December 12, 1904.

It happens occasionally that a patient is brought to me with the statement that a joint had been examined with the X-ray, and that the joint had been found either normal or not, as the case may be. I must confess that after considerable experience and the possession of most excellent and powerful apparatus, I have never been justified in making such statements upon the basis of a fluoroscopic examination; yet upon questioning patients I have repeatedly been assured that no photographic exposure has been made. I am loth to believe that another can see more when looking at a joint with the fluoroscope than I can, and I can therefore not refrain from pleading that where the fluoroscope has been used with negative result, this fact be communicated to the patient frankly; otherwise the later use of the photographic method may result in bringing what is a most valuable aid into disrepute, or, what is often more likely, it may endanger the physician's reputation for skill or even honesty of purpose.

It must, first of all, be borne in mind that the X-ray picture is only a shadow picture, differing, however, from the silhouette in showing the relative opacities of various tissues and even of different parts of the same tissue. It is for this reason that the picture acquires a certain degree of plasticity and that it becomes possible to show more than mere outlines of bones and other parts; it is for this reason, however, that the interpretation of the radiogram becomes a matter of judgment and skill, and implies not simply the ability to see what is on the plate, but implies also what might be termed with some appropriateness, a knowledge of radiographic anatomy. The term radiographic anatomy is the more justified since it is concerned not only with the external contours of the bones, for example, but also with the minute details of their internal structure.

I might illustrate this by referring to the upper extremity of the humerus, There is here normally, in the region of the greater tuberosity, a place where the spongiosa is rare. The appearance on the X ray negative is almost that of a cavity, and might be looked upon as a tuberculous focus by the uninitiated. This has, indeed, happened. There are many instances which I might bring forward tending to show the necessity of an acquaintance with the normal appearances in order to properly interpret the picture of a part suspected of morbidity. It is, moreover, important not to regard the radiographic negative as independent of the clinical manifestations, for while it is often possible to establish a diagnosis from the appearance of the radiogram alone, the reverse is also true. It is also to be remembered that the technique which has been employed in a given case has much to do with the manner of interpretation; a change in this technique may frequently be the means of entirely altering the appearances of the same part in different exposures.

From the foregoing it may be seen that though the technical difficulties in the way of securing satisfactory negatives are frequently great, and demand not only efficient apparatus, but also experience and skill, the interpretation of what is seen on the well-made negative is in greater measure difficult. While the technique is being steadily reduced to a largely mechanical process, this can never happen to the reading of a plate: this must always be the business of the physician and a matter of training,

A word regarding the improvements in technique may be permitted, although this is really foreign to the limit which I had set for this paper. One improvement alone may be mentioned as having almost revolutionized the practice of radiography. This is the compression diaphragm of Albers-Schoenberg. This apparatus I have no intention of describing at this time, but desire to call attention to the fact that by its use we are enabled to secure radiograms of the adult hip and spine such as were out of the question before. An improvement of no less remarkable degree may be noticed, however, in the pictures of parts more superficially situated, such as the shoulder, knee and ankle, when this apparatus is used. The radiograms here shown as made by means of a diaphragm apparatus are easily recognized by the circular outline of the picture. They are not made by means of Albers-Schoenberg's model, however, but by means of one which I devised upon the same principles, and which I believe to be more practical for several reasons. Formerly, in making radiograms of the deeper parts, it was impossible to avoid fogging the plates by means of the high vacuum tubes which it is necessary to use in order to secure sufficient penetration of the overlying mass of tissue. By means of the diaphragm apparatus this is to a great extent avoidable. In addition to this, greater precision in making the exposures has been attained by the use of other instruments which are designed to measure the penetrating power of the tube. By the use of these accessory instruments the making of X-ray photographs, before not only laborious and difficult, but very uncertain, may now be reduced to a process which might almost be called mechanical.

These improvements of technical character have increased the excellence of the photographs, and therefore made interpretation of them easier; there still remains a number of sources of error which may not be disposed of in this manner, since they depend upon skill, experience and carefulness on the part of the radiographer and interpreter. The number of these is large, too large for me to consider in detail in this paper.

The error which is made by failure to photograph a joint in different positions is to be looked upon as avoidable and due to lack of thoroughness; the failure to find changes in a bone because they have been entirely blotted out by over-exposure or the use of a tube of such penetrating power that all contrasts have been lost, is an error which should be avoided by skill on the part of the radiographer, but also recognized, once it has occurred, by the trained eye of him who attempts the interpretation.

There is much misconception of the possibilities of the radiographic method. This is especially true regarding the diagnosis of tuberculosis in bones and joints. Stress has been laid upon the frequent failure to demonstrate the lesions very early in the course of the disease. It must be remembered that tubercle in bone may for quite a long time—in fact, after it is no longer to be regarded as focal—be unaccompanied by a gross loss of substance; unless such gross loss of substance has occurred, it is, however, not possible to recognize with certainty the existence of *focal* disease. On the other hand, it is true that the bone atrophy of Sudeck, which consists of a diminution of the shadow-throwing attribute of bones which are contiguous to a joint tuberculosis, is too little known, and its value in the diagnosis of such lesions therefore not appreciated. It follows, therefore, that those who would rule out the existence of a focal bone lesion for the reason that it is not clearly shown in the radiogram would frequently fall into error; those who are awake to the meaning of bone atrophy in the presence of an appropriate clinical anamnesis will, on the other hand, be often satisfied by this of tuberculous joint infection.

At this day it should not be necessary to emphasize the advantage of repeated radiograms in following the progress of cases under treatment when once the diagnosis has been determined; at the same time I feel that this method has not been sufficiently often resorted to. I feel that while not even every surgeon need become the possessor of an X-ray apparatus, he should do so rather than allow his patients to suffer for the lack of it. When the professional radiographer has to be depended upon, it is only too likely that the radiographic examination will often be omitted on account of the inconvenience attending it.

With these general considerations, therefore, I beg to present a number of X-ray negatives which I trust will demonstrate better than my words that the X-ray photograph has become an indispensable aid in the practice of orthopedic surgery.

There follows the résumé of the lantern-slide demonstration which was presented with this paper:

1. The lumbar spine and sacro-iliac joints of a normal adult male, weighing about 150 pounds. Made with the compression diaphragm. The amount of detail and freedom from fog is greater than can be accomplished without the use of a diaphragm apparatus.

2. The normal hip joint of the same individual. The entire circumference of the femoral head is clearly outlined. The detail in the acetabulum is particularly satisfactory.

3. The iliac form of congenital dislocation of the left hip, in a girl of five years. Reduction rather difficult and the case is still under treatment.

4. The supracotyloid form of congenital luxation of the left hip in a girl of twenty months. This is the usual position of the head of the femur in children who have either not walked or who have done so for a short time only. The shortening is minimum (one-half inch), and the reduction is accordingly much easier than in the iliac form.

5. The preceding case after reduction with the limb still in the primary position; the picture was taken upon removing the second dressing. The head is shown well under the acetabular roof and a perfect result is to be anticipated. Reduction was done five months ago; the child walks without any limp whatever. There is no shortening.

6 and 7. The hips of a girl of fifteen years. She is a rachitic dwarf and walks with a waddle which is very similar to that of congenital luxation of both hips. The marked lordosis found as a rule in such patients of this age is, however, lacking, although the adduction contracture of the thighs is marked. The radiograms show the femoral heads to be entirely absent, the short and rudimentary necks articulate directly with the acetabula. Motion in these hips is sufficiently free for ordinary purposes, and is accompanied by a peculiar grating which is explainable by the roughness of the articulating surfaces. The condition is unique as far as I know, and is not to be remedied. Should the adduction contracture increase greatly, operation might be indicated.

8. The pelvis and both hips of a boy, sixteen years old. brought to me in the belief that he was suffering from hip disease. The depression in the neck of the femur and the deformity of the head are plainly contrasted with the normal condition of the right hip joint.

9. A detail picture of the left hip shown in No. 8. The clinical symptoms were those of the adolescent form of coxa vara. and this was the clinical diagnosis which I made before seeing the radiogram. There is shortening of one inch and elevation of the trochanter to this amount. Motion is limited greatly in abduction and inward rotation, but in no other direction. Pain was felt along the thigh extending toward the knee. The radiogram plainly shows that the depression of the femoral neck is due to the juvenile form of osteoarthritis of the hip. This diagnosis was to be made in no other way, except possibly by exploration of the joint.

10. Rachitic bending of the necks of both femurs in a colored child of three years. Radiogram by Dr. Lang.

11. The right hip of a boy of sixteen, convalescent from hip disease. The neck of the femur shows an increase of the angle between the neck and shaft, the so-called coxa-valga. The radiogram of the left hip shows its angle to be normal. The picture is shown simply by way of contrast to the examples of coxa vara.

12. Incipient tuberculosis of the left knee in a girl six years old. The negative shows slight clouding of the joint line and the shadow of the soft parts indicates the swelling which was present at the inner side of the joint. There is no indication of focal disease and there is no bone atrophy present as yet.

13. Destructive tuberculosis of the right knee in a child of six years. The loss of substance in the articular ends of the femur and tibia is well shown. Bone atrophy is very marked in the femur, but much less so in the tibia.

14. Tuberculosis of the elbow in a woman of thirty-six years. The disease had been active for three years when this radiogram was made. The bone atrophy at a distance from the seat of disease is marked. The resection which was done demonstrated that the radiogram was accurate.

15. Acute tuberculosis of the right wrist in a girl eighteen years old. On account of the acute onset with fever a diagnosis of acute rheumatism had been made. In addition to the erosion of the lower end of the radius and the bones of the carpus, marked bone atrophy is seen in the phalanges.

16. The same case ten months afterward; the bone atrophy has become much greater, but the sharper outlines of the bones affected by the disease indicate the process of repair. The third radiogram, made within the last few days, shows complete repair to have taken place. All of the bone contours are now sharp and the bone atrophy which was so prominent has entirely disappeared.

17. Disease of the left hip in a girl of seven years. In addition to the clouding of the joint line, bone atrophy is evident in the femur at a distance and also in the pelvis of the affected side.

18. Destructive hip disease in a child of five years. In addition to the marked bone atrophy, there are seen two sequestra in the acetabular part of the hip.

19. The same case one year after the beginning of treatment; the sequestra appear smaller, but the erosion of the acetabulum is deeper and abscess of considerable size has developed.

20. The same hip as the preceding as it appears to-day. The abscess disappeared entirely under protective treatment, and there is not more than a trace to be seen of the one sequestrum, the second having disappeared altogether.

21. The pelvis of a girl, twelve years old, showing tuberculosis of the hip cured with perfect motion. The traces of the disease may be seen in the epiphysis, and although the radiogram was made three years after the suspension of treatment, the bone atrophy has not yet entirely disappeared.

22. Tabetic arthropathy in a man thirty-one years of age. The crumbling of the tarsal bones is seen side by side with periosteal proliferations in the metatarsi. This latter is never seen in active tuberculosis.

23 Focus of osteo-periostitis in the lower end of the femur in a man of thirty. History of acute attack of inflammation three years before, after exposure from fording a stream in winter. Repeated subacute inflammations of the knee with effusion. At operation the depression was found and contained a gelatinous material The sharply-defined and regular margins of the focus differentiate from tuberculosis.

24. Lateral view of the same knee showing the depression in profile.

25. Exostosis of the tubercle of the tibia in a boy, thirteen years old, said to have followed an injury in foot ball. The pressure of the growth upon the ligament of the patella has apparently caused a relaxation and the consequent high position of the patella.

26. Sprain fracture of the tip of the cuboid bone in a lady of seventy years. It simulates very closely the os peroneum, which is sometimes found as a sesamoid bone, but in this instance the fracture surface on the cuboid establishes, without a doubt, its real nature.

27. The compression diaphragm adjusted as for an exposure of the upper lumbar segment of the spine.

(*For discussion see p.* 77.)

THE ETHICS OF GONORRHEA IN THE FEMALE.*

BY E. S. McKEE, M.D.,

CINCINNATI.

Puzzling questions have frequently come before me in the last quarter of a century connected with my duty to my patients, mostly female, who come to me for the treatment of gonorrhea and its sequelæ. I have on several occasions had the husband in the back office and the wife in the waiting-room, or *vice versa*, each suffering from gonorrhea and each trying to keep it from the other, thinking, of course, he or she had contracted it on the outside, having had opportunity.

There comes to mind just now one whom I treated for various ailments as a girl. She afterwards married and in a few years her husband came to me with the gonorrhea. During the treatment his wife became suspicious and approached me, trying to find out what was the matter with Jack. I told her I would not tell on him any more than I would on her, and she would have to seek her information elsewhere. This was peculiarly effective, because I had secrets of hers which I had faithfully kept. She was no fool, however; she went to the public library, read up on the subject and settled in her mind as positively as only a woman can that Jack had the clap. Their troubles were patched up, peace reigned, and in a few months she appeared with the gonorrhea. War for a while, then a short truce, now they occupy separate residences. Did I do my duty to the wife who was first my patient and through whom the husband came to me? Was I over-careful, for the wife's good, of the sacredness of the husband's secret?

A dapper young dandy tripped into my office one day, and with an honesty which was surprising he said: "My wife has the clap; I gave it to her and I want you to come and treat her." I went, found his diagnosis correct, and in due time she improved and was well so far as I could tell. Being just married—it is only the newly married who tells his wife secrets—he was so unwise as to tell her what he had told me. Shortly afterwards they moved to St. Louis, and, wonderful to relate, forgot to pay me. A few years later a still stranger thing happened. They each began to pay me in installments of five dollars. They kept about neck and neck and I kept still. When they had both paid in full I returned the wife's money to her and kept his. Later the anxiety of both to pay the bill was explained by the filing of divorce proceedings on the part of the wife. I received notice from a very youthful and apparently important notary to come and give my deposition in the case. I went, but declined to tell what the husband had told me about infecting his wife, claiming privileged communication. I was dismissed to give him time to communicate with St. Louis. This proceeding was repeated five times. The fifth time a constable was called and I was placed under arrest and informed by the august youth that I would have to go to jail and remain there till I was willing to testify on this point. I advised him not to send me to jail, which counsel he seemed to think good, and told me that if I would promise to appear before Judge Hollister the next day he would let me go. I promised. I appeared before the judge, the case was argued and taken under advisement. I reappeared in a week and the case was again taken under advisement. I was called a third time and at the end of three weeks I was ordered by the judge to testify on this point. The argument was that the wife was the patient, that the husband was not. The wife, the patient, wanted the testimony given, hence I was ordered to give it. Had the wife not wanted me to tell I would not have been allowed to tell. Still, the husband came to me as a physician, talked to me as a physician, asked me to treat his wife, giving me such information, in confidence, as he thought I needed to best manage her case. Had I treated him I doubt if I could have been ordered to tell.

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* Read before the Obstetrical Society of Cincinnati, November 10, 1904.

The law is that the doctor, lawyer or minister cannot be compelled to testify in court or elsewhere, what professional knowledge he has about his patient' client or parishioner, unless he or she wishes him to do so. The great majority of attorneys with whom I spoke thought the judge's decision wrong. The second case differs from the first in that the husband had never been a patient of mine.

A patient came to my clinic in August last with the gonorrhea. In September the students began to return after vacation. She forbade me telling them what was the matter, as she had a personal acquaintance with several of them. Had I the right to tell them that she had the gonorrhea or even to show them that she had?

We will call the heroine of my last case Ida, because that was not her name. We will locate her in Avondale, living with her grandmother, because she did not live in Avondale nor did she live with her mother as she shonld have done. When I first saw her she had just passed from sweet sixteen to silly seventeen. How well I remember how she then looked. Her cheeks had the soft glow of yonth, and when she blushed there came to them a color midway between that of an Alpine rose and a California peach, though she herself was an American Beauty, while her eyes had the hue of a campanilla. When she breathed, her innocent and bountiful bosom rose and fell like the gentle swelling and sinking of the pacific Pacific, and under the effects of that abundant mirth, which we find only in healthy youth, there was presented a panorama of subdued swells and backing billows. She had a mingled expression of timidity and fearlessness, the fearlessness of the consciousness of her own spotlessness. Frequently, however, she was brought to blushes at the praises of her own loveliness. How beutiful is youth. Here comes the truth of that old Spanish proverb: "El melon y la mujer malos sont de conocer" (Hard to judge by senses human are a melon and a woman).

Sad it is that such girls are not always as sweet as they look. They are so often badly influenced by their surroundings. This grandmother and her sister who lived with her were, to my mind, the meanest women on earth, and who can be meaner than a woman? Dishonest, dirty, vile, scandalmongers, belonging to that class of whom it is too truthfully said, "At every word a reputation dies." Little did they dream that to them were coming home the lies they told about every one they knew. These things all told on the beauty's temper, and in after years led to the following original verses. The first was composed when she was in a good humor and the second when she was not.

When Ida smiles and shows her teeth
I sigh and feel a deep relief;
Her rose red lips between unfurl
Two glistening rows of prettiest pearl;
I treasure more that radiant smile
Than many a millionaire his pile.

When shown her teeth without a smile,
I wish myself a thousand mile
Up Egypt's bullrush-bordered Nile;
I quickly seize my coat and hat,
Evacuate. avoid a spat,
And feel just like an old door-mat.

To the words used with reference to the Aztec mistress of Cortez, "Hermosa comma Diosa" (beautiful as a goddess), we might add, "Perro endimoniado" (but possessed of the devil).

She grew. Lovers came and went, and the adage seemed about to prove itself: "Poor girls have more lovers than husbands," and the other, "Fair flowers do not long remain by the way side," seemed almost disproven. Her home life was horrid. At last *the* one came. He was an ardent lover, but slow to marry. The case lasted for months, even years, and still no crisis. One day in the last of January her grandmother brought her to me and said she had not been *well* since her return from a month's visit to a distant city. She was out of sorts. Seemed grumpy, nervous, pains peculiarly placed and no satisfactory symptoms. I prescribed and they left. A few weeks later she came to me *without* her grandmother.

She said she had not been *unwell* since Christmas. She agreed to an examination with surprising readiness, and I told her I feared she was pregnant. She acknowledged the opportunity and declared she would get rid of it. She kept her werd, and in due time I was sent for to attend her in a flooding spell. I saw her several times. She recovered promptly and the grandmother seemed none the wiser. This was just subsequent to one of George Washington's numerous birth-days.

I saw nothing further of her; she did not even stop in to pay her bill. Disasters, however, seldom come singly. In June she came to me looking a perfect wreck of her former self. I made a vaginal examination and found all the symptoms of a badly neglected case of gonorrhea. To make doubly sure, I submitted a specimen of the discharges to the city bacteriologist, who found numerous and beautiful specimens of the gonococcus of Neisser. I knew she loved him and I knew this was about her last chance. She was ruined, she was diseased; who but he should marry her and take care of her the rest of her life? Her home was Hell, he deserved Hell for a home, and I was sure she could and would make a hell of a home for him. If he did not marry her I saw old maidenhood ahead of her, and if she made such an old maid as her grandmother's sister who had made life miserable for her and for every one else who came under her rule, the alternative was appalling. Seduced, impregnated, aborted, diseased—what was left for this poor girl? Surely old maidenhood should not be added to her disasters. She was lean, thin, sick, weak. The long-neglected gonorrhea had involved the vulva, vagina, cervix, uterus, tubes and ovaries. She had vulvitis, abscess of the vulvo-vaginal glands, vaginitis, endocervicitis, salpingitis and ovaritis. Fortunately for this unfortunate girl, the urinary tract was but slightly affected. She dragged slowly through the summer and in the fall began to regain some of her good health and looks, but the half of them seemed gone forever. About this time, after strenuous effort, I collected my bill, which offended her very much. When Jack is in love he is no judge of Jill's beauty, and her lover remained devoted in spite of the fading of the flower from her cheek and the disappearance of her embonpoint. "To lovers all the world is only landscape" Earlier in this article I mentioned that her cheeks were like roses. I meant the red roses. After her miscarriage and gonorrhea they were like the white roses. After she had partially recovered her lost health and settled down into chronic invalidism they were like the yellow roses.

Now that I had my bill should I tell her what was the matter with her and raise trouble generally, or keep still and let things take their course? The following original verse describes the case very well, though possibly with more poetry than truth, or rhyme than reason.

A maiden forsaken
A true love may get,
But a hymen that's broken
Can never be set.

The cranium-cracking complications of the case are these: When she came to me first with her grandmother she had just returned from a visit to her mother, where she had a lover. Her Cincinnati case had become rather chronic. The suspicion had always been in my mind, had she not conceived while away from Cincinnati? And was not her other lover the father of her fetus instead of her Cincinnati lover? What added to this suspicion on my part was the fact that she would not at all allow me to mention in any way whatever to her Cincinnati lover the fact that she had been in a family way and had had a miscarriage. That he was the father of her gonococci I have no doubt, but that he was the father of her fetus I do doubly doubt. I believe, in truth, that while she was away they were both untrue. In fact, on her return she was suspicious of him, probably from her own guilty conscience, and asked him if he had been true to her. Being of Celtic descent, he gave her an evasive answer in words of the following moment: "Doth the lily inquire of the humming bird, hast hummed and fluttered about other flowers?

During these months, when she was so ill with gonorrhea and its sequelæ, and her lover, though devoted, seemed not matrimonially inclined, the questions always revolving in my mind were: Ought I to tell her her real condition? Ought I to tell *him* her real condition? Ought I to tell her grandmother her condition? Ought I to try to force the wedding, and would I by so doing do more harm than good?

> "Those who in quarrels interpose,
> Must often wipe a bloody nose."

I decided inaction to be the better part of valor. The result was as good, if not better than I could have hoped for. The following Christmas they were legally married. Another question is, as the Cincinnati lover paid for the gonorrhea and the attention at the miscarriage both, was it wrong to let him pay for the other fellow's fetus? This question, however, did not keep me up nights.

Professional secrecy is a delicate subject. We should always remain faithful to our trust. It is said that the first newspaper was established by a French physician in 1622, who, finding the news and gossip which he brought on his rounds very welcome, applied to Cardinal Richelieu for a patent to publish the *Paris Gazette* This peddler of gossip had not the proper idea of the sacredness of his calling. We should lock up our patient's secrets in our memory, give them the key and then forget. It was Ben Jonson who said: "To tell our own secrets is folly; to tell those intrusted to us is treachery." It has been truly written: "Three may keep a secret provided two of them be dead," for a secret is seldom safe in more than one living breast.

Judge Hollister knows more about law than I do, and he probably interpreted it correctly, but if such is the law it should be changed. I should not have been ordered to tell what the woman's husband told me in confidence as a physician.

(*For discussion see p. 78.*)

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

Meeting of December 12, 1904.

OFFICIAL REPORT.

THE PRESIDENT, S. P. KRAMER, M.D., IN THE CHAIR.

STEPHEN E. CONE, M.D., SECRETARY.

DR. ALBERT H. FREIBERG read a paper (see p. 70) entitled

The Radiogram in Orthopedic Diagnosis.

DISCUSSION.

DR. W. H. CRANE: As I listened to the paper to-night I could not help thinking of the great difference between the radiographic work of to-day and that which we tried to do seven or eight years ago. It was not unusual, at that time, to give a plate an exposure of forty-five minutes, and the resulting negative was always fogged by the rays which passed around and beyond the body of the patient. The use of the compression diaphragm marks a great advance in the technique of radiography, as these beautiful lantern slides show. Any one who is interested in photographic work, however, knows that a plate loses by any process of reproduction, and we must remember that even these splendid pictures which we have seen to-night do not show how beautiful the negatives are from which they were made. Since I have used a compression diaphragm I have been much interested in the plastic effect which it gives to almost all negatives. This was well shown by a number of the lantern slides. It is something which I cannot explain. Possibly it is the absence of fog from the parasitic rays which makes the relation of one part to another more plain than it is in negatives taken in the old way. I should be glad to know if the essayist has any explanation of the plasticity which the diaphragm negative often has.

DR. JOS. RANSOHOFF: The essayist has certainly presented a very admirable series of lantern slide pictures to-night. I happen to know something about the enormous amount of work that is entailed in the collection of such a series of pictures. It means not only the few moments required for the exposure of the patient, but the long, long hours in the dark room, with the risks, perhaps, attending the use of the X-rays.

I differ entirely with the previous speaker as to the value of the fluoroscope. Lesions can be recognized by it very easily, but it makes a vast difference as to the person interpreting what is seen in the fluoroscope. I think some one said—and I am not sure but that it was upon this floor—that he looked through an abdomen to see if there were any gall-stones present in a certain case. He did not see any, and therefore concluded that there were none. Such work can be done with the fluoroscope, and it can be done by the taking of a picture at all times. You can have a tin-type taken for very little, but when one wants a fine photograph he must go to a photographic artist. The same thing applies pretty much to radiographs, and the finest radiograph, after all, is very difficult of interpretation. That is why we doctors differ. perhaps, oftener with anything concerning radiography than in any other thing.

I am sure that I have never seen any finer negatives than those from which the lantern slides were made. I have had the pleasure of seeing this collection of plates grow from month to month, and from year to year, in the hands of the essayist; and many of the cases we have followed together—of hip joint disease, for example, in which the sequestra would be seen in the first picture and in a picture taken a few months later they would be seen to be getting smaller, and in a subsequent picture would be seen to be still smaller, and so on until they disappeared, so we would have the cure of the disease demonstrated in a way that seems almost marvellous.

Dr. Freiberg: I shall only take enough time to reply to one or two points which have been brought up in the discussion, as the hour for adjournment is at hand.

In regard to the plasticity which the negatives possess which are made by means of the diaphragm apparatus, attention was called to the fact by Albert Schoenberg himself that these pictures have a plastic effect which is seen in but few pictures made without the diaphragm apparatus. He considers this to be due to the fact that without the diaphragm apparatus we get very little more than a shadow picture, a silhouette. With the diaphragm apparatus the outside rays are cut off to such an extent that the differences in opacity are depicted, and that is what gives the appearance of relief in the picture, gives it that plastic appearance. I can only emphasize what Dr. Crane has said of the difference between radiography at the present time and what it was a short time ago. Dr. Crane some years ago was doing pioneer work, before I had thought of taking up this line of work. He was then doing it under great difficulties with apparatus which is not to be compared with that which we now use.

In regard to the use of the fluoroscope, I meant exactly what I said, and I said it feelingly. It is exceedingly annoying to be told, for instance, by a parent who brings a young child to you for examination, when that child has hip joint disease which is as plain as *a*, *b*, *c*, and scarcely requires a radiograph to be taken, that the child has had the X-ray applied by a physician, who said that everything was all right. I do pride myself on having pretty good eyesight for one thing, and I am perfectly sure that I have tried to see a good deal with the fluoroscope, but I am sure in such a marked case as this one with sequestra, I could not see anything worth mentioning with the fluoroscope, and yet one can scarcely conceive of a hip joint more badly diseased than this in the early stages. Against the use of the fluoroscope in fracture cases, foreign bodies in the hand, etc., I have nothing to say—it is a valuable thing in such cases, but for the recognition of orthopedic conditions I feel that it has no value whatever.

CINCINNATI OBSTETRICAL SOCIETY.

Meeting of November 10, 1904.

The President, Sigmar Stark, M.D., in the Chair.

John H. Landis, M.D., Secretary.

Dr. E. S. McKee read a paper (see p. 74) entitled the

Ethics of Gonorrhea in the Female.

DISCUSSION.

Dr. Rufus B. Hall: This paper of Dr. McKee's is certainly a unique one, and also a very interesting one, covering as it does a very important subject. This subject has given me on several occasions a great deal of anxiety, and also placed me in a very embarrassing position. If you are treating a married woman, who is intelligent, and who is a victim of gonorrhea, even though she should insist upon knowing what is wrong with her, I do not believe you ought to tell her. There are many reasons why yon should not do so. If she is innocent, and her husband has infected her, you have nothing to gain by telling her what is the trouble with her. If you do, you destroy her peace of mind, you do not save her any physical suffering, you may cause an endless amount of trouble between her and her husband, and again you do not help her disease. I do not think that it is the doctor's business to step in between a husband and wife, cause disturbance and perhaps lay the foundation for a divorce suit. There is always room for hope in the mind of a woman that she may not have had gonorrhea.

In some instances, however, the woman may lie to the physician and tell him that she contracted the disease from her husband when in reality she acquired it from some other man. Then, too, she may have gotten it in some other way than a criminal way. I have a patient in mind now who contracted gonorrhea through the use of a syringe which belonged to a friend whom she was visiting. She took a douche with this friend's syringe just after her menstrual period, and got a beautiful case of gonorrhea. Her husband also contracted it from her. That woman did not know that she had gonorrhea, for I did not tell her. Her husband went to his physician and he told him that he had gonorrhea, and that came pretty nearly separating the two. The husband knew that he had not been any place to get the disease, and so he accused his wife of doing wrong. I have never yet told a married woman that she had gonorrhea, and I do not believe that this is the proper thing to do. I have very frequently taken the husband aside and asked him the question plainly if he had ever had gonorrhea, and if he had been cured of it. In many cases I have made him admit that he had an old chronic case of gleet, and then I have told him that he was responsible for his wife's disease. These men will tell you not to tell their wives the true state of affairs. They will tell you that they have been true to their marriage vows and supposed that they were well of their disease. This also brings up a very important matter. A man with gonorrhea has no business to enter into the married state until he is thoroughly well.

Dr. W. D. Porter: I did not get into the hall in time to hear the paper, but I think I got the drift of it from the last speaker, and he has probably voiced the general attitude of the profession on this question of informing married women as to venereal complaints for which they come to be treated. I suppose that the plan which he has approved is the generally accepted one, and perhaps it is the best one from the standpoint of policy. Still, I believe that all patients, who are treated by a physician have the right to know the disease for which they are being treated, if they wish to know. I have usually evaded these questions just as the last speaker has done, but I think there are times when the truth should be told. The danger of infecting her children is much less if a mother knows the precise nature of her disease.

Dr. C. D. Palmer: Gonorrhea is a very serious disease, serious enough to men, but much more serious to women. Its recognition is of the most importance, consequently it is for the best that a correct diagnosis of its presence be made as early as possible. We can be reasonably assured of its existance by the following fact, viz., the suddenness of the attack of the inflammation, the severity of the symptoms, and the great probability of the presence, sooner or later, of serious complications. The other inflammations, which simulate gonorrhea, are easily controlled and are usually of a shorter duration. The diagnosis, at once suspected by these mentioned symptoms, can only be settled by the aid of the microscope.

I can recall two cases of gonorrhea in women which proved fatal. In the first the specific inflammation extended from the vulva and vagina to within the uterus, then to the Fallopian tubes and pelvic peritoneum. It did not stop there, which is usual, but within a few days the whole peritoneum was attacked, and the woman, a married woman, who had contracted the disease from her husband, died from a most severe attack of general peritonitis. The husband confessed to me he had recently had an attack of gonorrhea.

In the other case, also a married woman, perfectly well when married, became sick within a few weeks. When first seen and examined she had a vulvitis, vaginitis and slight endometritis. But the disease from then on took another course in its progress. The urethra, the bladder, the ureters, the pelvis of the kidneys, became in turn infected. In a few days more there was a decided suppression of urine, uremic poisoning, convulsions, and finally death by coma. All of this was within three weeks.

In reference to the matter of informing patients so afflicted what ails them, it is a very momentous question for us to decide. Such information coming to us as physicians and surgeons should be regarded as a sacred trust, not to be divulged, if it may complicate social relations; not to be spoken of unless there are very good reasons therefor.

Dr. John M. Withrow: I confess to very little experience along this line. but so far as my experience has gone I have never deviated at all. I have declined to tell a married woman afflicted with a venereal disease what her trouble was, for reasons which have been already mentioned. Then, again, take a woman with a discharge; I do not believe that we are justified in making the statement that the disease is gonorrhea until a careful microscopic examination has been made and remade, proving that it is genuine gonorrhea.

I would not take that position in reference to an unmarried woman, because presumptive evidence there ought to tell you what is the trouble pretty conclusively; but with a married woman the case is different. Here you enter into the precincts of the family relations, and to disturb that circle with such knowledge as you possess may cause the most disastrous results. I do not believe that anything is to be gained by giving patients this information. I do believe, however, that we ought in such cases to give such directions as will protect other members of the family from possible contagion. For the most part, in cases of venereal disease in married women the wife is innocent—I should say in 95 per cent. of the cases. To give information in these cases as to the real trouble is not going to make the husband any better; it certainly is not going to make the wife any purer or better. It is not going to make us any better able to do the business for which we are there. Hence, that variety of information which is of no value to the patient had better not be given her. I do not see that she is going to profit by this to her advantage, particularly when there is a certain uncertainty about it.

I agree with the previous speaker that there is much misinformation and ignorance on the seriousness of gonorrhea. I make no hesitation in saying that it is the more serious in its effects of the two most common venereal diseases; it is less amenable to cure, and its results may be far more disastrous than syphilis.

So far as the legal aspect of the question goes, I think if we take the position that these are privileged communications (and I think the law so regards them), then we need have no further question about the matter. If the law gives you the right to have what are called privileged communications, it means that it is your duty to keep such communications to yourself, and you have no business to give the information away to anybody. To give such information in a court will usually not help the matter at all. By imparting such information, as I said before, the wife is not made any better or any more pure; on the contrary, she is much more miserable on account of knowing of such an infection, from such a source. The husband's lot is not made any better, and I do not believe, for the most part, he will be made any better man. I do not believe a husband is particularly apt to reform because the wife has had information of his excesses. It seems to me that we should be perfectly clear and stand with both feet on this proposition—never to give any information which is not going to do anybody any good.

Dr. Byron Stanton: I agree pretty well with what has been said by the speakers preceding me. I think we make a mistake if we tell our patients that they have the gonorrhea, for the reasons which have been brought out in the discussion. I do not agree with the second speaker that it is our duty to tell a patient, in such an instance as he cited, from what she is suffering. I do not think it is our duty, if we are treating a specific disease to tell the patient for what we are treating him or her. I think, on the contrary, we ought to keep from them the disease for which they are being treated. It is liable to cause trouble between husband and wife, and the poor doctor comes in for abuse from both.

Dr. Sigmar Stark: The consensus of opinion, that information bearing on the presence of gonorrhea in the woman should be kept from her, I believe to be practically correct, but, of course, there is no rule without an exception. Both the essayist and the participants in the discussion have failed to take into consideration the presence of gonorrhea in the girl. We all know that gonorrhea does appear in children; in fact, this very subject is receiving a good deal of attention at the hands of the German gynecologists at the present time. It is impossible at this time to pick up a German gynecological journal without some reference to that subject. I have at present under treatment two girls, one fourteen years of age, who has had gonorrhea ever since she was five years old, which was discovered by her physician at that time. Dr. Wilkinson examined the discharge microscopically and found the gonococcus present when she came to me for treatment a few months ago. The other case is that of a young lady (a virgin) twenty-one or twenty-two years of age, whom I treated about a year ago. She had been under treatment by one of our local physicians, who treated her for cystitis. When she would get over one attack of this trouble it would return after a short time. The physician who had been treating her overlooked the fact that there was a urethritis present which was dependent upon a gonorrheal vaginitis, which diagnosis was also confirmed by microscopic examination. I treated her and she got well—that is, apparently well, for there were no more gonococci present in the discharges. In this instance I was compelled not to tell the girl, but told the mother. She was engaged to be married, and in telling the mother I came very near severing the friendly relations which existed between myself and the family. The mother upbraided me, and said that I must have some ugly thoughts in my mind or I would not say such a thing, and it took me the longest time to make her understand that gonorrhea might arise in young girls from some cause which might be unknown to us.

I believe that there is another condition in which it becomes necessary to make known the presence of gonorrhea, and it is in those cases in which it exists in a latent form in both husband and wife. It may remain in this latent state for quite a while and then something will excite the existing condition into activity, and an acute gonorrhea will manifest itself in the husband and wife. It then becomes necessary to inform the husband that it exists in both of them, and if they wish to get well they will have to refrain from marital relations while under treatment.

As a general rule it is best to withhold the knowledge from the wife, but there are circumstances under which it becomes necessary to impart the information to the husband or some member of the family.

Dr. McKee, closing: I wish to thank the gentleman who have taken part in the discussion. I am glad Dr. Stark has called attention to gonorrhea in children, as I have observed it in both boys and girls who had contracted it innocently from members of the family. In fact, I have under observation at the present time a very stubborn case of gonorrhea in a little girl four years old. I am sorry that more attention was not given in the discussion to the medico-legal side of the paper. I was in hopes some one would tell me what are the rights of the clinic patient mentioned. Surely, she has rights. My last case reported was not married, but engaged to be married, which made it all the more interesting and delicate. If the case is studied it will appear more and more delicate. My case which brought me into the courts has also an interesting phase. It was a privileged communication which was not privileged, if there ever was an unprivileged privileged communication.

Definition and Classification of Gastric Hemorrhage.

F. G. Connell (*Medical Record*, January 7, 1905) says that, although gastric hemorrhage may occur without hematemesis, still this is the only reliable, substantial, and practical sign of its occurrence, and, therefore, a study of gastric hemorrhage must necessarily be one of hematemesis. He divides hematemesis into two main types, chronic and acute. Acute hematemesis may be either symptomatic or non-symptomatic, and each of these may be divided into multiple and single. The whole question, especially if the possible previous and after history be considered, is a complex one that apparently is in need of further study.

M. A. B.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, JANUARY 21, 1905.

PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE REPORT.

The 1904 report of this most valuable but little recognized and less understood branch of the government is at hand, and aside from the mass of necessary statistical and routine work, valuable only to the members of the service, there is a wealth of material relating to public health and the various departments of hygiene, that make the book a welcome visitor to any physician at all interested in the struggle that is being constantly waged against the insidious inroads of disease.

Of great interest at the present time is the question of the maintenance of a high health standard among the builders of the Panama Canal. That the Marine-Hospital Service will work in conjunction with the Isthmian Canal Commission is to be expected, and Surgeon-General Wyman's remarks in this connection are worthy of quotation. He says: .

> "There is much dependence by the authorities of the canal zone upon the work of the officers of the service in Chili, Peru, Ecuador, and Venezuela, as well as the various West Indian and Central American ports, and it would maintain the harmony of the whole maritime quarantine service if some arrangement were made similar to that now existing in the Philippines and in Porto Rico and Hawaii."

That is to say that the service is willing to assume charge of the maritime quarantine of the Isthmus during the time of construction of the canal. If the commission sees fit to avail themselves of this offer, it means much to the establishment of healthy conditions among the workmen.

Several new hospitals have been added to the service, notably at Pittsburg, Buffalo and Savannah. The hospital, or rather sanatorium for consumptives, at Fort Stanton, New Mexico, is widening its field of operation, having treated 386 patients for the year, an increase on the previous year of 112. Of this number, the report gives 16 as discharged cured, 9 discharged with disease arrested, 87 discharged improved, 19 discharged not improved, 1 discharged (non-tubercular, recovered), 62 died, and 192 still under treatment. In this connection attention is called to the recommendation of the Surgeon-General for a hospital for lepers in this country upon government land. It is suggested in the meantime that the service take advantage of the offer of the health authorities of the Hawaiian Islands to study the methods of treatment and care carried out in the leper settlement at Molokai.

Bubonic plague, which obtained a foothold in this country, in San Francisco, in March, 1900, and in consequence greatly alarmed the entire nation, has been largely robbed of its terrors, and in that its mode of transmission is now better understood, has been gradually stamped out. No case has been reported since last February.

As regards yellow fever, practically all the cases occurred on the Mexican border. To show the value of directing the campaign in this district mainly against the mosqito, the *stegomyia*, the following extract is taken from the report:

> "In Neuvo Laredo, Mexico, where very little anti-mosquito work was done, 50 per cent. of the population contracted the disease. In Laredo, Texas, directly across the river, where, after October 1, 1903,

fever cases were screened, water tanks, etc., oiled, and infected premises disinfected to kill mosquitoes, 1,050 cases developed in a population of 10,000, constituting only about 10 per cent. of the population. The practical results obtained by drainage, mosquito destruction, prompt screening of all fever patients, and screening of all water containers, show that the disease can be controlled by measures directed exclusively toward the mosquito."

So that while we may regard the exact cause of yellow fever as a question *sub iudice*, we have at command, experience has taught us, the ways to effectually neutralize its dangers.

As regards the third of the great plague diseases, smallpox, Wyman believes that it has reached its high-water mark, and will continue to decrease in the future. The total for the year was 25,106 cases and 1,118 deaths, as against 42.590 cases and 1,642 deaths for the previous year. This marked decrease is due in part to the fact that probably less mistakes were made in diagnosis. It is now well known among the laity that all manufacturers of vaccine virus are now compelled by law to have their wares licensed after a most rigid examination by governmental experts. This fact probably accounts for the greatly increased confidence in vaccination that is in general evidence all over the country.

If the hygienic laboratory had been able to justify its existence by this one act alone, *i.e.*, the inspection and regulation of vaccines and serums, it would have been sufficient; but in addition many valuable data have been collected in the experiments on car sanitation, examination of pathologic specimens, and particularly on the study of yellow fever, malaria, tuberculosis and invasion by animal parasites. Outside the laboratory Dr. C. W. Stiles has made important observations concerning the so-called "spotted fever" of Montana. In a study of ten cases of this disease, with one necropsy, he was unable to accept the heretofore accepted statement that this disease is caused by a *Pyroplasma*, that it is transmitted by ticks, or that it originates in what are popularly known as "gophers." On the other hand, while the nervous manifestations of the cases under his observation were more than usually severe, the one autopsy made did not disclose any lesion of the central nervous system that could possibly be interpreted as meningitis. "My work is negative, so far as cause, treatment and prevention are concerned; the greater part of my time was, of course, occupied in treating the present theories regarding the disease, and my results are entirely of a destructive nature."

Many other topics of general and timely interest are touched upon, but the above are sufficient to give some idea of the character and scope of the work being done by this very important branch of the government. It is fast assuming what should be its proper place, that of a National Board of Health.

DEVELOPMENT OF THE FACULTY OF BINOCULAR FUSION.

One who will take the trouble to investigate will doubtless satisfy himself that strabismus is not so common nowadays as formerly. He will also discover that the operation of tenotomy for the cure of strabismus is not nearly so frequently performed. Why is this? Is the human race outgrowing the strabismic habit according to the law that nature ever strives toward the ideal physical state? We think not; the educational demands of the day require almost abnormal use of the eyes for near use, and there would be an increase of strabismus if it were not for the fact that there has been during the last decade or two a recognition of the fact that cross-eyes mean a need for glasses. Almost every one now knows that a child who is squinting probably needs lenses to correct the abnormal refractive state, and even the grandmas and grandpas are no longer horrified to see spectacles on children.

Jackson, of Denver,[1] writes concerning the development of the faculty of binocular fusion and presents a simple device to aid a child who is almost hopelessly cross-eyed (and therefore using but one eye exclusively) to quickly acquire the "fusion habit." He writes as follows:

> "The fusion faculty, which controls the ocular movements in the interest of binocular vision, is one of the most delicate and exact, yet one of the most constant and rigid, co-ordinations that the human race acquires. That it is not commonly possessed at birth seems to be well established by the argument of all careful observers. That it is normally developed in early childhood, and only during early childhood, is equally certain. Persistent and intelligent efforts have failed to give any indication of its acquirement in adult life. I believe it is well established generally before the age of two years, and practically always before six. The earlier age is that of normal development, the latter is the limit of delayed or obstructed development, beyond which its appearance or development is impossible".

Jackson's device for teaching a child who is strabismic to acquire stereoptic vision consists in two mirrors so placed that the image will be thrown on the macula lutea of the squinting eye even while it squints. The child soon learns the trick of binocular fusion, and the most important point in bringing about a cure without operation is thus accomplished.

D. T. V.

EDITORIAL NOTES.

Dr. Arthur Vos, House Physician to the Cincinnati Hospital, is recovering from a severe attack of blood poisoning.

Twenty nurses graduated from the Training School of the Cincinnati Hospital last week, and were immediately added to the Alumnal Association of that institution. The Alumnal Association, at its annual meeting, elected Mrs. Elizabeth President, and Miss Olive Harlan Secretary.

Dr. H. W. Albers has been appointed a District Physician to succeed Dr. J. W. Miller, who has been promoted to the position of Medical Examiner.

The report of Drs. West and Patterson, Health Officers for Brookville, Ind., just filed for 1904, makes a remarkable showing. During the year past there was not one case of smallpox, measles, mumps, scarlet fever, whooping-cough or even chicken-pox in the entire city.

Report of the Bureau of Infectious and Contagious Diseases for the week ending January 13, 1905:

Disease.	Cases.	Deaths.
Measles	0	0
Diphtheria	5	2
Scarlet Fever	15	3
Typhoid Fever	20	2

The Bourbon County Medical Society was entertained at the offices of Dr. W. C. Ussery, Paris, Ky., on Thursday, January 19, when the following programme was given: "The Diagnosis of Appendicitis," Dr. Wm. Kenney; "Treatment of Appendicitis (Surgical)," Dr. Robert Carothers, Cincinnati; "Is There a Medical Treatment of Appendicitis?" Dr. Joseph Eichberg, Cincinnati; "Relapsing Appendicitis," Dr. A. H. Keller, Ruddles Mills, Ky. The discussion was opened by Dr. J. S. Wallingford.

The Cincinnati Society for Medical Research held its regular monthly meeting in the Laboratory of the Cincinnati Hospital, January 19. The programme of the evening was as follows: "Experimental Decapsulation of the Kidney" (with lantern slides), Dr. H. J. Whitacre;

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[1] Journal American Medical Association, January 14, 1905.

"Myoma of the Skin" (lantern slides), Drs. M. L. Heidingsfeld and S. Markley; "An Attempt to Relieve Atrophic Rhinitis by a New Operation" (presentation of patient), Dr. S. Iglauer.

Dr. N. P. Dandridge chose as the subject of his presidential address before the American Surgical Association at St. Louis last July a history of one of the pioneers of Western medicine, Antoine Francois Saugrain (De Vigni), a reprint of which address we beg leave to gratefully acknowledge.

The transportation of corpses in the smoking compartments of passenger cars of the Rapid Railway is to be fought by the newly-created Kennedy Heights Board of Health. Communications have been opened with the Ohio State Board of Health to see if the Interurban Company has the right to carry corpses in the regular passenger cars, and the Board is asked to interfere with this practice in the future.

Academy of Medicine — Monday evening, December 23, Dr. J. Henry Schroeder will read a paper entitled "Digestive Disturbances—A Clinical Study."

FOR RENT — Physician's office, 11½ E. Seventh Street; in the best locality, hot and cold water, telephone, good light, use of reception room. With Rhee Rigdon, D.D.S.

Correspondence.

ON THE TREATMENT OF CANCER.

Cincinnati, January 16, 1905.

Editor Lancet-Clinic:

In the last number of the Lancet-Clinic there is an editorial on the subject of Mayo Robson's late Bradshaw lecture "On the Treatment of Cancer," in which he lays great stress on the precancerous conditions of which we have heard so much of late years.

Anything that Mayo Robson may write commands respect, and his name lends weight to any views he may advocate. In the lecture in question he lays great stress on the importance of (1) eczema of the nipple or Paget's disease as a precancerous condition, leading to cancer of the breast; (2) phimosis as predisposing to cancer of the penis; and (3) gall-stones as leading to cancer of the gall-bladder; and finally the proneness of non-malignant tumors to become malignant.

These conclusions have all been controverted by W. Roger Williams, the well-known Registrar of Middlesex Hospital, in the *British Medical Journal*, December 17. Williams has written largely on the statistics of malignant disease, and no one can speak with more authority. "I claim," he says, "in the most complete and convincing manner, that these (Mayo's) conclusions are absolutely untenable," and supports his assertion with the following evidence. Attention to the significance of eczema of the nipple was first called by Paget in his well-known essay on "Disease of the Mammary Areola Preceding Cancer of the Mammary Gland." "He reported cases in which initial lesions of the kind were after various intervals followed by the formation of cancer and the conclusion was drawn that this sequence 'very often happened.' Since Paget's time the subject has been numerically investigated on a large scale, comprising over 2,000 cases, and cancer has been found to follow eczema of the nipple in only one-half of 1 per cent." This fact is certainly not generally known, and should be widely disseminated, for writer after writer has accepted Paget's conclusions. Any one who has attempted to investigate the question when confronted with a case of local disease of the nipple must admit that it is difficult to find any satisfactory authorities upon the subject. Williams adds: "Surgeons may, therefore, disabuse their minds of the idea that Paget's disease plays an important part in the pathogenesis of mammary cancer. Areolar affections are only exceptionally followed by the outbreak of mammary cancer. It is just the same with lingual, buccal and other leucoplasias; it is only exceptionally that they end in cancer." So much importance has been attached to the view that these conditions are really a precancerous stage that Williams' facts should be given due consideration—perhaps not at once accepted, but fully weighed.

As to the proneness of non-malignant tumors to become malignant, he says: "My investigations relating to uterine, ovarian, mammary and other tumors prove conclusively that non malignant tumors have no special proclivity to malignant disease; on the contrary, they are less prone to it than the corresponding organs." He quotes from Sir F. Semon that 10,747 non-malignant laryngeal neoplasms only originated 47 cases of malignant disease.

As for the relation of phimosis to cancer of the penis, he quotes extensive statistics to show how rare it is, only 2 to 4 per cent., while phimosis is very common.

We have heard a great deal of late of the importance of gall-stones in the development of cancer of the gall-bladder. According to Kehr and others, 10 per cent. of all adults have gall-stones. In 7,297 cancer patients in London hospitals only 11 have primary cancer of the gall-bladder, while 11,131 cancer patients in Vienna gave only 5 cases. "I submit that these figures only admit of one interpretation, namely, that cancer of the gall-bladder is not caused by the gall-stones so often found in association with it."

Mayo's Bradshaw lecture has given additional support to the widely accepted view of the importance of the above-mentioned conditions as being really a "pre-cancerous stage," leading inevitably to fully developed malignant disease, and early operation has been urged on this ground. Williams asserts that such a conclusion is really without supporting facts, and supports his contention with an array of carefully studied statistics covering a large number of cancer cases, and shows that these statistics do not support the conclusions maintained by individual surgeons.

N. P. Dandridge.

P. S. CONNER, M.D.
J. C. OLIVER, M.D.

Surgery.

H. J. WHITACRE, M.D.
H. A. INGALLS, M. D.

The Treatment of Cancer.

Mayo Robson (*British Medical Journal*, December 3, 1904), in his Bradshaw lecture, expresses the following opinion: While cancer is not infectious in the ordinary sense of the term, there is a large accumulation of facts to prove that it is locally infectious and capable of distribution by contact and inoculation. It is also undoubtedly auto-infective, so that an imperfect operation was dangerous, since by distributing the cancer cells it might implant numerous foci of disease. If possible cancerous tumors should be removed without preliminary incision, leaving a wide area of healthy tisssue around the growth, and whenever practicable the nearest lymphatic glands and the vessels going to them should be removed, whether involved or not. If the glands were already infected it was of the utmost importance to take them away cleanly without rupture, and, whenever possible, in the same piece with the tumor. If the tumor was incised for diagnostic purposes the exploratory incision should be closed by sutures, the skin purified, the knife and needles boiled, and the surgeon's hands sterilized before proceeding with the operation.

In dealing with the question of treatment the subject is considered under the head of preventive operation and radical treatment.

Pre-cancerous conditions are given a place of very decided importance. Under this heading he places all of those conditions which would seem in one way or another to predispose or lead to cancer. Such conditions as continued irritation in the mouth, the irritation of the scrotum by soot in chimney-sweepers, and chronic ulcers are spoken of as some of the conditions in which cancer may be actually prevented. Warts, eczema, sebaceous tumors, ulcers, scars, etc., are looked upon as pre-cancerous conditions. The close relationship between gall-stones and cancer of the gall-bladder places the operation for gall-stones among the operations preventing cancer. Eczema of the nipple, chronic inflammations of the breast, small tumors of the breast, cysts, etc., are undoubtedly precursors of cancer, and cancer will probably be more frequently prevented by the timely treatment of these conditions than in almost any other region.

Ulcer of the stomach is looked upon as a decidedly pre-cancerous condition. Robson believes that the following conclusions of Audistere are correct:

1. Simple ulcer of the stomach may be the starting-point of a cancerous growth, a condition of things which appears to be not infrequent.

2. This malignant degeneration affects, as a rule, the chronic ulcers, especially in the pre-pyloric region. The change begins in the mucous membrane at the margin of the ulcer.

3. The transformed ulcer presents for a long time almost the same symptoms as a simple ulcer; the differential diagnosis is, therefore, very difficult.

4. Nevertheless, the diagnosis can be made by noting the persistence of the symptom, the resistance to treatment, the wasting and the progressive anemia. The pain, as a rule, is more severe than in cases of simple ulcer.

5. In cases of cancer apparently primary, the origin in an ulcer may be suspected if the pain is unusually severe and paroxysmal, if hyperchlorhydria is pronounced, or if hematemesis or perforation occur. The prognosis is decidedly more grave, for the progress of cancer grafted upon an ulcer is more rapid, and bleeding or perforation is liable to occur.

Cancer is perhaps more commonly noticed to supervene on a recognizable pre-cancerous condition in the uterus than is observable in any other organ, and the frequency with which cancer develops in ulcerations of the cervix points distinctly to cause and effect.

Uterine adenomata, uterine polypi and fibroids undoubtedly lead to malignant disease. Dermoids and papillomata of the ovary likewise lead to cancer. All of these conditions must be treated in the pre-cancerous stage.

By the radical treatment of cancer Robson means the entire removal of the disease at an early period, together with a wide margin of healthy tissue, and, if practicable, the nearest lymphatic glands. In speaking of cancer of the breast the radical operations of Halstead is insisted upon. Robson's personal results in sixty-two cases reported are as follows:

There was no operative mortality.

Thus, twenty-three survived the three-years' limit.

Twenty are now alive and well at periods up to twelve years after operation. Others operated upon within the year are not included in the statistics.

Five died from other diseases without recurrence of cancer, one twenty years after the major operation.

Twenty-eight had recurrence, though in eight it was over three years subsequent to operation.

Eight could not be traced.

He believes that cancer of the breast, if operated on early and with thoroughness, is by no means the incurable disease that many think; in a very large percentage, fifty or more, the patients may look for over three years' respite, and in 40 per cent. to a much longer period of freedom, and many to a genuine cure.

Radical treatment of cancer of the stomach is spoken of most encouragingly, and the results of Prof. Kocher, of Berne, are quoted:

"I have performed ninety-seven resections of the stomach for cancer and sarcoma (one only for sarcoma). Of these, fifty-two cases (operated on between 1881 and 1898), 65.4 per cent. recovered, 34.6 died. From 1898 to August, 1904, forty-five cases have been operated on, with 82.2 per cent. recoveries and 17.7 per cent. deaths. Of these last eight cases which died (that is, 17.7 per cent.), one died from perforation at the point of union, one from perforation of the transverse colon in consequence of local gangrene, and six cases from pneumonia, while locally everything went on in a normal way. Without these cases, dying from complications existing for the most part before operation (bronchitis, etc.), we should have had only 5.1 per cent. of deaths directly from operation.

"With regard to definite results, fifty-one of the whole series died later, living up to six years (in the mean 18 7 months), much longer than after gastro-enterostomy, and in much better condition.

"Twenty cases are still living, two for several months only, one for ten months, six for one year, one for two years and two months, one for two years and eight months. one for three years and eight months, three for five to five and a half years, one for six years, one for seven years, one for eleven years, and one for sixteen and a quarter years.

"All the patients, except one, of the twenty living are in very good health. Dr. Matti and I have seen most of these cases ourselves, and Dr. Matti has examined them carefully as to the functious of the stomach. The others have been examined by their local doctors. We may be sure that a good many of our cases have given a radical cure.

"All of the cases living, except one, have been operated upon by our method of resection with gastro-duodenostomy. This method, applied in seventy-one of the cases, has also given the best result as to immediate mortality—that is to say, 16.9 per cent. of deaths and 83.1 per cent. of recoveries."

The radical removal of cancer of the tongue will give excellent results. Mr. Whitehead has excised the tongue independently of other complications on 50 occasions without a death, and in 116 operations the mortality was only 2.5 per cent. He refers to cases living thirteen, twelve and eleven years after operation.

If only diseases of the tongue were attacked in the pre cancerous stage, and if this were done more frequently, and if, even when cancer has developed, time were not lost in dosing patients with iodides until the disease had extended too widely, there would be a much brighter tale to tell.

Cancer of the larynx is now giving excellent results after the smaller operation of thyrotomy and the removal of the diseased area. Sir Felix Semon reports 85 per cent. of permanent cures by this operation.

Cancer of the intestine must be operated upon early.

Cancer of the rectum furnishes one of the most promising fields of complete removal, since the rectum can now be thoroughly examined by an electric light and the disease discovered at an early period.

Cancer of the gall-bladder is looked upon as a distinctly operable condition.

Cancer of the lip and cancer of the penis will yield good results in a large percentage of cases.

Cancer of the Uterus.—The author reports his own cases of cancer of the uterus as follows:

These are twenty-seven in number, twelve total hysterectomies without a death, of which one is alive and well eight and a half years after operation, one alive and well seven years after operation, one six, two five, two three, one one and a half; from four no answers were received.

Fourteen very free supravaginal amputations of the cervix without a death, of which one is alive and well eleven and a half years after operation, one ten and a half, one ten, one nine, one six, one lived for five years and died of heart disease without recurrence of cancer, from two no answer was received, one lived four years and recurrence took place, five lived a year or less and recurrence took place.

Prof. Olshausen's experience in 803 vaginal hystererectomies shows a mortality of 4 4 to 6 per cent., 70 per cent. lived for two years without recurrence, and 38 per cent. had no recurrence after five years.

Prof. Wertheimer reports fourteen cases, in which nine of the patients were free from disease at the end of four years.

Prof. Zweifel, in 153 operations had 35.6 of the cases well and free from recurrence after five years.

These facts prove beyond a doubt that cancer of the uterus is a curable disease if diagnosed and removed in its earlier stages. H. J. W.

Infective Myositis.

Abram (*Lancet*, November 12, 1904) gives the classification of muscle diseases from Lorenz, and reports two very interesting cases of infective myositis.

A. Suppurative varieties: (1) Traumatic; (2) by extension; (3) metastatic; (4) infective myositis.

B. Non suppurative varieties: (1) Polymositis, dermatomyositis, polymositis hemorrhagica, polymositis with erythema multiforme; (2) neuromyositis; (3) myositis in connection with joint lesions; (4) myositis tuberculosa; (5) myositis syphilitica.

C. Varieties with special terminal lesions: (1) Muscle scars (myositis fibrosa; (2) myositis ossificans.

The most recent work has shown that the suppurative varieties of myositis have been caused by the following germs in the following order of frequency: Streptococci, staphylococci, pneumococci, bacillus typhosus, and bacillus mallei. Lessened resistance to infection from exposure to cold and exhaustion will naturally predispose to these lesions, and the hemorrhages known to occur in over-worked muscles will afford a definite localizing influence to excessive muscular action.

Brunon's list of muscles affected in infective myositis runs as follow: Pectoralis major, deltoid, triceps and biceps, psoas, quaudriceps, and the gastrocnemius. In both of the cases reported the pectoralis major was the muscle affected. The inflammatory process attacks the interstitial tissues first. In acute cases fever is generally noted—a point of some importance in the diagnosis of muscular rheumatism. Attention will be drawn to the muscle or muscles by their becoming swollen and becoming gradually shortened when the whole belly thereof is involved; in other cases nodules may be found. The skin may or may not show edema. When edema is present the underlying muscle change is difficult to detect. Pain is a marked feature, and is generally increased on movement stretching the affected muscle. Limitation of movement naturally is present, partly due to dread of pain, but also to contracture induced by the irritation of sensory nerve fibres passing through the inflamed area.

The treatment suggested is speedy incision into the affected muscle even before definite abscess formation is perceptible. Anti-streptococcic serum and general supportive measures are also advised. The first case healed slowly after operation; the second case is reported complete, since it represents a typical case:

"I saw the patient (a single woman), aged forty-five years, on September 4, 1904, with Dr. Mary Birrell Davies. She was evidently deeply poisoned, the face was livid and the expression was dull. The pupils were dilated. The temperature was 103° F. and the pulse was 140 and very soft. The heart and lungs were normal. There was marked edema of the skin over right upper chest, limited very definitely below by the anterior fold of the axilla. A few scattered erythematous areas were also noted. No glands could be felt in the axilla. The shoulder joint seemed to be intact. Mr. Douglas Crawford cut down upon the pectoralis major later in the day, and on opening the sheath of the pectoralis muscle found suppuration in it, but no definite abscess formation. The inflammatory process had extended along the suspensory ligaments of the breast. The patient succumbed a few hours later. Dr. Davies has very kindly written some notes bearing on the early history. The patient thought she had had a chill, as she was 'shivery' on August 29 and 30. On the 31st, when Dr. Davies first saw her, the temperature was 101°, the pulse was 110 and full, and there was pain in the right upper chest, the arm being kept closely to the side and movement being resisted. The first trace of edema over the muscle was noticed on September 3, and on the 4th death occurred, within a week after the initial shivering." H. J. W.

The Association of Cancer and Tuberculosis.

Bastedo (*Medical News*, December 17, 1904) contributes a very comprehensive article upon the question of the association of cancer and tuberculosis. Two cases are reported, and the literature of the subject is very thoroughly reviewed. A valuable bibliography is attached. The following conclusions are drawn:

1. Cancer and tuberculosis not infrequently occur together in an active state, and may be intimately associated in the same tissue.

2. There is probably neither specific favoritism nor specific antagonism between the two types of the disease.

3. There are a few reported cases in which one of the affections seems to have exerted a modifying influence on the course of the other.

4. Lupus favors the development of epithelioma.

5. Cancer is more common among those with latent tuberculosis than among others at the cancer period of life.

6. The common age for cancer is not the common age for active tuberculosis (Cruveilhier, 1828).

7. The common sites of cancerous involvement are mostly not those of tuberculosis involvement, and *vice versa* (Rokitansky, 1838).

8. A family history of tuberculosis is more frequent in the cancerous than in the

general community, and there may be some hereditary relation between the two diseases.

9. A latent tuberculous process in a lymph node may become active when a cancer develops in the neighborhood.

10. Lymph-node enlargement in the vicinity of a cancer is not always cancerous (Claude, 1899), and may be solely tuberculous. H. J. W.

"Potato" Tumor of the Neck.

Gilford and Davis (*The Practitioner*, December, 1904) report three cases of so-called "potato" tumor of the neck and discuss the nature and origin of this type of tumor. This growth was described by Mr. Jonathan Hutchinson, in 1888, as follows: "It has no connection with the parotid or face, but grows under the sterno-mastoid. From beneath the muscle it pushes its way both behind and forwards, and assumes the shape of a huge kidney potato. It can never at any stage be recognized as consisting of separate glands, and it seldom shows any tendency to implicate or cause enlargement of adjacent glands, but, having once begun, it grows rapidly as a continuous, very firm, nodular mass. From its form and its hard nodosities I have been in the habit of calling it the submastoid potato tumor. Its growth is usually so rapid that it produces death within a year or eighteen months from its beginning. It brings about death by its growth, its pressure upon adjacent parts, and by the bleeding and the discharges which attend its ulceration. So far as my knowledge extends, there is no tendency to the production of secondary tumors."

The authors of this article believe that the position of these tumors, their relation to the carotid arteries and penetration of the carotid sheath at the point of bifurcation, all point to an origin from a structure situated in this neighborhood, and this structure is the carotid body. The tumor is described as an endothelioma. The carotid body is of the size and shape of a grain of rice, and is situated within the fork of the bifurcation of the two terminal branches of the common carotid. It is of a granular nature, but mesoblastic in origin and has no connection with the epiblastic tissue of the branchial arches. Its function is unknown. It is believed that such growths are far more common than their scarcity in medical literature would lead one to suppose. They are, as a rule, looked upon as tubercular, lymphomata or malignant glands. The intimate connection of the carotid body and the tumor developing therefrom with the artery makes the removal of the tumor without the artery a very difficulte procedure. The authors therefore suggest the removal of the common carotid and its branches with the tumor. It is suggested that the common carotid should be tied a week or so before the removal of the growth, in order that a sufficient blood supply to the cerebral centres should be insured beforehand.

H. J. W.

Ophthalmology.

D. T. VAIL, M.D.

Thoughts Suggested by a Study of the Eye Injuries of Independence Day.

Randolph, of Baltimore, in his address as Chairman of the Section on Ophthalmology of the American Medical Association at its last annual meeting (*Journal American Medical Association*, December 10, 1904), presents arguments founded on his own observations and that of leading oculists in America to show that not only has the "glorious Fourth of July" degenerated into a meaningless—not to say idiotic—expression of imaginary patriotism as it is celebrated by many semi responsible mental defectives of the country and their vast horde of promising but foolish boy-admirers, the former of whom making the license of liberty which the day suggests an excuse for lawless rowdyism and beer guzzling and the latter an excuse for playing with dangerous explosives, but also that hundreds of lives are lost and dozens of eyes injured or destroyed as a consequence. To use his own words, "The Fourth of July has become a day of mourning to a large number of those who participate in its celebration and an unmitagated nuisance to thousands of others," etc. "How singular, not to say preposterous, is the spectacle of this country celebrating the anniversay of its independence at the expense of 466 lives, 10 persons rendered totally blind, 95 eyes lost, and 500 other individuals maimed and disfigured. This is the record of July 4, 1903, a record which eclipses in its death list the losses in killed on the American side in the battle of Bunker Hill"—an excellent observation showing the irony of fate.

It is appalling to read the statistics; eyes ruined by the hundreds, some of which had to be enucleated, either because of complete collapse of the globe or in fear of sympathetic ophthalmia. He suggests that an amusement that is so dangerous is not legitimate, "and is to be classed at once with crime and disease." He cites a case: Small boy sees fuse of cannon cracker hanging out of man's coat pocket, lights it from behind, watches the fun at a safe distance—boom—man's side blown open—dies in two hours. This is only a sample case—465 others went to their deaths in the same way, with slightly varying details, on the same day.

Randolph prays that the oculists, surgeons and physicians get together and formulate resolutions and petitions to present to the city council to impose a heavy fine on the sale of the more dangerous fireworks, so that we may save human life and prevent permanent injury to many eyes, not to speak of fires, run-away horses and other calamities not classified.

In Cincinnati something along this line has already been done. Dr. Haines presented to the Academy of Medicine some months ago a resolution bearing on this matter, and it was unanimously adopted.

Congenital Occlusion of the Lachrymal Canal and Acute Contagious Inflammations of the Conjunctiva in Children.

Anything ocular which emanates from the brain and pen of Dr. John E. Weeks is read with interest and profit. In the *Journal of the American Medical Association*, December 10, 1904, he discusses purulent manifestations in the eyes of children, laying down some guiding principles in the treatment of these affections.

Speaking of congenital closure of the lachrymal canal, he states that from three to eight weeks after birth the secretion of the tears begins; at this time the eyes become suffused with tears, and some flakes of muco-pus appear in the conjunctival sac. The physician is apt to mistake this condition for acute contagious conjunctivitis, and treatment, if irritating, makes matters worse. The proper treatment is simple boric acid washings followed by some bland ointment. No attempt should be made to open the tear-drainage apparatus, as it will open itself in the vast majority of cases in from two to six weeks.

He mentions the following germs as being the *causus morbi* of acute contagious ophthalmias affecting children, viz, the pneumococcus, the Koch-Weeks bacillus, the gonococcus, and the Klebs-Loeffler bacillus. The microscope is essential in making a positive diagnosis, and likewise quite important to employ, as the prognosis and treatment depend on what the microscope demonstrates to be the germ at work in a given case.

The pneumococcus never produces wide spread epidemics, as the conjunctiva will often tolerate this germ and not become inflamed, but the exact opposite is the case as regards the germ of "pink eye" (Koch-Weeks bacillus, or, as he also calls it, "the small bacillus"), for this disease, once introduced in a family, school or asylum, will be apt to affect all or nearly all of the inmates.

Gonorrheal conjunctivitis has been known to be epidemic in institutions where many persons are massed together, and in such instances the guilty source of infection can usually be found by examining all urethras and vaginas.

Diphtheritic conjunctivitis, while contagious, does not become epidemic. These four types of diseases are apt to be mistaken for one another because of the variation of the severity of the attack which is so common. Gonorrheal and diphtheritic conjunctivitis are exceedingly prone to result in loss of vision unless recognized early and treated scientifically. Weeks lays down a rule of conduct as regards the use of moist cold applications. His teachings are as follows: The thermal range of development for the pneumococcus and diphtheric bacillus is 55°F. to 110°F., while that of the gonococcus and the influenza germ (Koch-Weeks) is 88° F. to 110°F. Cold applications will not bring the temperature of the conjunctiva below 92°, hence in gonorrheal ophthalmia and acute conjunctivitis due to the Koch-Weeks germ ice applications have a marked influence in inhibiting germ growth, while in diphtheritic conjunctivitis and pneumococcus conjunctivitis cold does little good. Regarding moist hot applications, he states that we cannot hope to raise the temperature of the conjunctiva above 110°F., and seldom even to 102°F., hence as an inhibitor of germ growth hot applications fail, but they may have some beneficial influence on the circulation of the blood and lymph.

He recommends frequent washings with boric acid solutions throughout the course of any of the diseases mentioned. He states that argyrol 20 per cent., or protargol 10 per cent., should be dropped in the affected eyes two to four times a day *during the acute stage;* that as soon as the subacute stage is reached nitrate of silver, ½ per cent. solution, is the proper remedy. "Experience has proven that protargol, and to some extent argyrol, leave the conjunctiva in a slightly thickened condition if their use is persisted in long after the acute stage has subsided, and that some other astringent, particularly the nitrate of silver, will cause the conjunctiva to return to a normal condition much more rapidly".

In diphtheritic conjunctivitis antitoxin should be used early and sufficiently often until the membrane disappears. Before antitoxin was introduced 95 per cent. of these cases went on to blindness, while now it is possible to prevent any affection of the cornea in almost, if not quite, all the cases by the proper administration of antitoxin.

Post-Operative Infection of the Eye.

White, of Richmond, Va. (*Journal American Medical Association*, December 19, 1904), has used bichloride vaseline in preparing the eye for operation. He uses the following ointment:

Hydrarg. bichloridi, ...	gr. i
Sodii chloridi, ...	gr. v
Vaseline, ...	℥ vi

The vaseline is boiled; the bichloride and salt are dissolved in a few minims of water and added to the boiling vaseline. Then this bichloride vaseline put away in jars until used.

In cataract operations he prepared his patient as follows: The night before a bath and purgative were given, eyebrows, lids and lashes are cleansed thoroughly by soap and water, followed by a bichloride solution, 1 to 1,000, and alcohol; the conjunctival sac is thoroughly irrigated with a bichloride solution, 1 to 10,000, and filled with the bichloride vaseline. A sterile pad and bandages are then applied to the eye, and it is not opened again until the patient is put on the operating table. The bandage is then removed and the sac irrigated anew with a weak bichloride solution, 1 to 10,000. The sac being kept filled with this bichloride vaseline for twenty-four hours after thorough irrigation, is much more likely to become sterile and remain so than if merely washed out. No organisms can live in this medium, as bacteriological investigations have proven.

The Treatment of Purulent Conjunctivitis.

Myles Standish, of Boston (*Journal American Medical Association*, December 17, 1904), arrives at the following conclusions in reference to the treatment of gonorrheal ophthalmia:

1. That the newer salts of silver (argyrol and protargol) are more easily applied, safer in use and produce better results than nitrate of silver.
2. That in cases of ophthalmia neonatorum either protargol or argyrol is an entirely satisfactory agent.
3. That in cases of gonorrheal ophthalmia in the adult, the results attained when treatment is begun early are approximately the same with either preparation, but when once the cornea is involved, protargol appears, in these cases at least, to have afforded a better ultimate outcome.
4. That the application of cold during the stage of swelling in gonorrheal ophthalmia is a dangerous procedure and should be abandoned.

Facial Paralysis Due to Tympanic Disease.

S. Oppenheimer, New York (*Medical Record*, September 10, 1904), reports two cases of facial paralysis due to suppuration in and about the tympanic cavity completely cured after a radical removal of all the necrotic tissue. He gives the histories of the cases and the technique of the operations in detail. C. R. H.

The Lancet-Clinic

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SYSTEMATIC EXAMINATION OF SICK CHILDREN.*

BY JAMES W. ROWE, M.D.,
CINCINNATI.

The physical examination of young children presents many difficulties, which are, fortunately, not entirely uncompensated by certain advantages. The difficulties arise from the inability of the little patient to verbally explain his symptoms, his liability to become frightened and consequent tendency to cry and struggle. The advantages consist in the impossibility of prevarication or dissimulation and the ease with which he is stripped and moved about. Withal, the undertaking requires patience and peculiar tact.

To begin with, the mother or nurse is called upon to answer a number of questions. If the conversation is carried on in a comfortable way it may do something toward soothing the natural agitation of the child in the presence of a stranger.

It is interesting, at first, to get the mother's view of the case. What has especially excited her alarm? Why has she called in the doctor? These are naturally the first questions, and they are not unfraught with danger, for the answers may mislead the practitioner. It often happens that some striking, but really insignificant, condition makes a great impression on the mother's mind, while an important but less showy symptom escapes her entirely.

A few questions about the rest of the family, and especially about the parents, are here in order, particularly with reference to syphilis, tuberculosis and nervous diseases. Some tact must naturally be employed. It is a practical point in this connection that constipation in children may often be explained on the basis of heredity.

The previous history of the child itself should be investigated, its size at birth, the method of feeding, its rate of growth and development, and any former illness. Previous medical treatment, if this can be discovered, is of great importance. The laity have a well known penchant for "getting the bottle refilled" without the knowledge of the physician, and great harm may be done by the continued, unguided administration of such drugs, as, for instance, Fowler's solution or Dover's powder.

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* Read before the Academy of Medicine of Cincinnati, November 21, 1904.

Finally, the present illness is to be considered—its mode of onset, duration, symptoms and severity.

We now proceed to the actual physical examination. Of all methods, inspection is most serviceable and important, and should be first employed. If the little one is old enough to understand at all, the physician gains something by discarding his professional and searching stare and assuming a more kindly expression of countenance. Before undressing the child at all its head, face, neck and hands may be observed. The baby's head represents a much larger fraction of the entire anatomy than does the corresponding part in the adult, and the information to be obtained from it is very considerable. Eye diseases, skin diseases, facial deformities and blemishes are so evident that they attract attention at once.

EYES.

Intra-cranial diseases are often indicated by the condition of the eyes, *e.g.*, suddenly arising strabismus, unequal pupils, or widely dilated pupils that do not respond to light. In cases with dilated pupils previous medication should be inquired into. It may be discovered that they are due to overdosing with belladonna, administered, possibly, for nocturnal incontinence of urine. The pupils are likely to be contracted in beginning meningitis, and they are always so in opium narcosis and normal sleep. Nystagmus may be a sign of tubercular meningitis or only a temporary neuresis. Corneal ulcer and interstitial keratitis point to congenital syphilis. Eyes that are imperfectly closed, that have lost their lustre and are coated with a film, *ceteris paribus*, betoken approaching death.

FACE.

A peculiar expression of attending strictly to business, eyes with a weary but anxious look, flushed cheeks, lips parted and nostrils dilating, speak very forcibly for pneumonia. A face expressive of determination or profound thought, utterly inconsistent with childhood, the head being at the same time drawn back, indicates meningitis. The face of adenoids presents a rather stupid appearance; the anterior nares are generally small, the mouth always open. Puffiness of the face, especially under the eyes, suggests Bright's disease or too much arsenic. A paralysis of one-half of the face is frequently seen in the newly-born, resulting from pressure by the forceps upon the seventh nerve as it emerges from the stylo-mastoid foramen. The paralysis is easily recognized when the child cries, and may account for difficulty in teaching it to nurse. On the face are observed several distinctive signs of syphilis. A nose, the bridge of which has fallen in, scars around the mouth, extensive sores on the upper lip resulting from the acrid discharge of ozena, and finally in older children the notched upper incisors, all proclaim this disease. The dreadfully emaciated face of chronic diarrhea is only too familiar. Cretinism is by no means a common condition, but its characteristic heavy, unintelligent expression should not be forgotten.

HEAD.

The inspection of the head will bring out several points of interest. There is great difference in the size of heads, and it is only when the cranium is quite small in comparison to the face and the rest of the body that the head should be styled microcephalic. The opposite condition is more interesting. A very large head, with widely open fontanelles and distinct veins coursing over it, where the forehead seems to overshadow the face, the expression of which is rendered still more peculiar by the presence of ptosis, indicates hydrocephalus. The head of rickets is square, with protruding temples and an anterior fontanelle still open in the third year. A bulging fontanelle indicates increase of intra-cranial pressure. With sufficiently active congestion it will pulsate as well as bulge.

HANDS.

A glance may now be taken at the hands. The condition of general nutrition is easily learned from them, and it always inspires a certain amount of confidence in the little patient's constitution if the wrinkle around the wrist, so characteristic of the healthy breast-fed baby, is in evidence. If paralysis exists. the practiced eye may be able unaided to discern whether it is flaccid or spastic, and thus refer the causal lesion to its proper centre. Of especial importance are clubbing and blueness of the finger ends, pathognomonic of lung or heart disease.

NECK.

In newly born babies a lump on the side of the neck is likely to be a hematoma in the sterno-mastoid muscle. After infancy swellings in the neck generally arise from enlarged lymph-glands, which may be tubercular or may indicate diphtheria, scarlet fever or superficial lesions on the scalp. Rigidity of the neck is noted, if present, in connection with an abnormal extension of the head. One should remember to look at the back of the neck at the roots of the hair. Scabs and sores here, resulting from the scratching of a chronic eczema, indicate almost infallibly the presence of pediculi capitis, when other signs have escaped observation.

BODY.

It is now in order to inspect the child's body, and for this purpose it should be stripped. In the possibility of doing this lies our greatest advantage. It is better, however, for the mother to take the child's clothes off in another room and to bring it in wrapped in a blanket. The undressing in the presence of a stranger may cause disturbance.

SKIN.

The general color and appearance of the skin is noted; it may be yellow, indicating jaundice; cyanotic, indicating heart trouble; of extreme pallor, indicating some form of anemia. A too moist skin suggests rickets, while the skin of chronic diarrhea is dry and harsh. The presence of any form of skin disease is generally apparent at once; the exact diagnosis is often a more complicated matter. The rose spots of typhoid should not be overlooked in cases with fever.

CHEST.

On inspecting the chest we first observe the precordia. If it bulges and pulsates to any considerable degree, as it may do on account of the softness of the chest walls, a cardiac hypertrophy is indicated. Pulsation in the vessels of the neck and in the epigastrium are also to be noticed in this connection. In young children, however, the impact of the apex may be seen in the mamillary line, or even beyond it, without indicating any enlargement of the heart. Marked distension of the veins in the upper part of the chest indicate swollen bronchial glands. The child's chest is more cylindrical than the adult's, and as its walls are still soft may present various modifications of form resulting from disease. One side may be smaller than the other, or remain comparatively immovable during respiration as a result of pulmonary disease, *e.g.*, atelectasis, or there may be contraction of one side from old pleurisy or collapse. The chest in rickets shows the well-marked beading along the costal cartilages, known as rachitic rosary, and a transverse groove at about the level of the ensiform cartilage due to the pulling action of the diaphragm. John Thompson, of Edinburgh, calls attention to a posterior beading. The enlargements are not found on all the ribs, and are asymmetrical. They are due to calluses around green-stick fractures caused by careless handling of an already rachitic child. Pigeon-breast is generally due to some chronic interference with respiration, as recurrent bronchitis or protracted whooping-cough.

BREATHING.

The character of the breathing is to be particularly observed. It is important to see if the two sides move equally, and if there is any indrawing of the epigastrium. The latter, when marked and when accompanied by other symptoms of pulmonary disease, and especially by the action of the accessory muscles of respiration, with sinking in of the supra-sternal area, indicates that sufficient air is not entering the lungs, and is always a serious sign. It occurs chiefly in broncho-pneumonia and laryngeal obstruction. These conditions may be distinguished from each other by the difference in the character of the breathing; that of broncho-pneumonia is rapid and superficial, that of laryngeal obstruction slower and labored, with short inspiration and longer expiration. The latter condition, accompanied by sinking in of the epigastrium, etc., calls for immediate tracheotomy. Infants with dyspnea have great difficulty in suckling. A retraction of the abdomen during inspiration indicates paralysis of the diaphragm.

While observing the chest the rate of respiration should be noted, which in infants under one year is normally thirty-five per minute, and gradually diminishes in frequency as age advances. Respiration may be very rapid in children, reaching eighty or more per minute in bronchopneumonia. Rapidity of breathing by no means always indicates disease of the respiratory tract, as it occurs in almost any fever. The peculiar form of breathing known as Cheyne-Stokes' may be observed in meningitis, acute or tubercular. There is often a peculiar disturbance in the rhythm of breathing in children with beginning pneumonia. Ordinarily we have inspiration, expiration, pause, but in these cases we have a loud and long expiration, a short inspiration, and then the pause.

ABDOMEN.

The abdomens of children are always large normally, but may protrude excessively from tumors, gas, feces or fluid. In meningitis, on the contrary, the abdomen is often flat, or even concave—boat-shaped. The navel calls for examination, as the seat of umbilical hernia, and in infants of septic infection and bleeding.

GENITALIA.

The genitalia are inspected for pathological discharges and deformities, *e.g.*, undescended testicle. In the case of male children it is especially important to examine the prepuce, which may be long, tight, adherent, and provided with too small an opening. A disease indistinguishable from gonorrhea is not uncommon, at least in hospital and clinic practice, in little girls.

ANUS.

On looking at the anus, the discovery of a pin-worm may explain a great deal of sleeplessness, and the discovery of a prolapsed rectum a great deal of crying. The common occurrence of intertrigo in this region need hardly be mentioned.

LIMBS.

The limbs vary greatly in their form and development, and deformities are frequent from congenital conditions, accident and rickets. In meningitis the feet are often turned with the soles inward, in tetany they are in a straight line with the leg, in hydrocephalus they are much underdeveloped. Swollen joints may indicate injury, tuberculosis or rheumatism. The discovery of rheumatic nodules is particularly interesting. These are little masses of white fibrous tissue located usually over the patella or olecranon. Periosteal nodes on the tibia indicate syphilis.

BACK.

The back offers for consideration the various conditions due to disease or deformity of the vertebral column. There are two of especial diagnostic importance—rickets and Pott's disease. Both are kyphotic, but in the former the curve is wide and will disappear upon pulling the legs, while in the latter the deformity is fixed and angular. Lordosis may result from a congenital dislocation of both hips.

MOUTH.

The inspection of the mouth and throat should be delayed until the rest of the examination is complete, as the child will almost invariably cry and struggle. Crying is not entirely a disadvantage, for when the mouth is open wide it is possible to get a good look at the interior. The great desideratum is to have the child properly seated on its mother's lap, facing a good light, daylight if possible. A very clever device for lighting up the oral cavity is suggested by Henoch. He recommends the use of a common candle, the flame of which is backed by the polished bowl of a table spoon. It is easy to hold both in one hand while the other is busied with the tongue depressor.

LIPS.

The lips are first noticed. Herpes labialis or other sores may be present; blueness indicates circulatory disturbance; pallor, anemia. Peculiarities and inflammation of the gums should not escape observation, nor, in older children, mercurial and Hutchinson's teeth.

TONGUE.

The tongue of very young infants is always rather dry, and often has a coated appearance. Occasionally the peculiar marked geographical tongue is observed. Abnormal shortness of the frenum may account for difficulty in nursing. It often happens that a refusal to nurse properly, especially in the case of bottle-fed babies, is explained by a comparatively slight catarrhal inflammation at the tip of the tongue. An ulcer under the tongue may occur in whooping-cough. The so-called strawberry tongue suggests scarlatina, and a tongue thickly coated on the dorsum and clean at the sides occurs in typhoid fever.

PALATE.

The palate may be the seat of ulcers. Especially should it be carefully examined in cases of suspected measles, scarlet fever, chicken-pox and smallpox. Occasionally the palate shows perforations as a result of syphilitic or tubercular disease. The Gothic arch is usually not marked until after the second dentition.

CHEEKS.

The inner surface of the cheeks as well as the other structures in the mouth are examined for the various forms of stomatitis, especially remembering the little white patches of thrush.

FAUCES.

Some form of tongue depressor must be used to get a good view of the fauces. A spoon handle is about the best, as it is a familiar object and does not frighten the child. The size of the tonsils is quickly noticed and the presence or absence of white spots or membrane on them. The condition of the soft palate and pharynx is then observed, not forgetting the possibility of retro-pharyngeal abscess.

PALPATION.

Palpation succeeds inspection, except that of the mouth and throat, which should be reserved until the conclusion of the entire examination. It is useful in confirming many things already observed, *e.g.*, open fontanelles, beaded ribs, heart impulse,enlarged glands. The hand should be warm and the touch gentle. When search is made for locations painful upon pressure, the child must first be soothed and its attention distracted, so that the discovery of the painful spot elicits the cry. If already crying it is hard to say where the tenderness lies or whether pressure is painful at all. The hand appreciates moisture and dryness much better than the eye, and can also appreciate muscular tone.

Head.—The head is palpated for craniotabes in cases of suspected rickets. A cephalhematoma on the head of an infant sometimes leads to an error in diagnosis from the peculiar way in which it heals. New bone is deposited around the periphery of the swelling while the centre remains soft, so that the impression of a depressed fracture is given, and if the delivery was instrumental the forceps are blamed. Firm pressure over the soft centre will discover solid bone beneath. Palpation is necessary to discover abnormal stiffness of the neck muscles when the head is retracted.

Chest.—On palpating the chest the vocal fremitus may be felt by making the baby cry. A rhoncial fremitus due to the vibration caused by bubbling mucus in the bronchial tubes is occasionally felt. This is rendered possible by the fact that the chest walls, even in well-nourished children, are quite thin.

Abdomen.—Enlarged liver and spleen are discovered on palpating the abdomen. It should be remembered that the liver of a child is, normally, big. If the spleen is enlarged it may signify in acute cases, malaria, typhoid or tuberculosis; in chronic cases, malaria, syphilis or some form of anemia. Some authors assert that enlarged mesenteric glands may be felt through the abdominal wall, but this must be rather a difficult task unless the abdominal wall is thin, the glands very big and the examiner skillful. Swellings in the groin require the aid of palpation in diagnosis. The cough or crying impulse distinguishes hernia from swollen lymph glands or undescended testicle.

Pulse.—It is sometimes very difficult to feel the pulse at the wrist, and it certainly must require incredible skill to recognize in the tiny pulse of an infant those peculiarities which are described in the pulses of adults. The pulse-rate may be much more easily learned by listening to the heart. It is to be remembered that the child's pulse is much more rapid than that of an adult, and that it may be considerably accelerated by comparatively trifling causes. It is better, when possible, to take it during sleep.

The slowing of the pulse in icterus, so marked in adults, is not observed in children, but in convalescence from fevers it may be slowed somewhat. In tubercular meningitis, at the beginning the pulse is slow and irregular, at the end it is fast. In scarlatina the pulse is very rapid. The relation of pulse to respiration should be considered.

Temperature.—Temperature may be approximately estimated by the touch, but the thermometer is much more reliable, and should be used in the rectum. Care must be taken, for a thermometer broken off in the rectum, a circumstance which might easily happen from some unexpected movement on the part of the little patient, would prove a very uncomfortable contingency. One must be on the lookout also for the proximity of artificial sources of heat—hot-water bags, etc.—which might elevate the column of mercury by their too close proximity. The normal temperature varies from 98° to 99.5°. Comparatively slight causes may send a child's temperature to an alarming height, but high temperatures are important only when they are continuous. Abnormally low temperatures are also observed, especially in premature children, in diseases accompanied by much loss of fluid, in starvation and atelectasis, and even cases of pneumonia and meningitis have been reported in which the temperature has been subnormal throughout.

AUSCULTATION.

Auscultation is practiced better before percussion. Whether or not a stethoscope is used must depend upon the habits of the examiner. It is a question whether the stethoscope frightens the child more than the proximity of the physician's head when the ear is placed directly to the chest, and there may be some objection on the part of the physician to putting his ear in this position. Sometimes the child may be influenced to play with the stethoscope for a few moments and its fright thus overcome. Some authors recommend an instrument with flexible tubes, holding that the movements of the child cause less embarrassment, as the bell can be held continuously against the chest; others consider that such instruments convey adventitious sounds, and prefer a simple straight stethoscope for one ear. In any case, if a stethoscope is used the bell ought to have a soft rubber rim. The bell of the instrument should be held between the thumb and finger of the examiner firmly against the chest, and follow thus the movements of the patient's body. A very important requirement in the case of a binaural stethoscope is that the ear pieces should fit the ear canals of the examiner. As stethoscopes are not made to order this is left entirely to chance.

Upon auscultating the open fontanelle it is often possible to detect a blowing murmur. While this may be somewhat louder and of more frequent occurrence in rachitic and anemic children, it occurs also in perfect health, and therefore has no definite pathological significance.

Heart.—For the examination of the heart a stethoscope is necessary. The difficulty of the task is still further increased by the rapidity of the heart's action. In young children the first sound is louder than the second, because the calibre of the arteries is comparatively large and the recoil of blood against the semilunar valves is not so forcible. The pulmonary second sound is louder than the aortic, but not so loud as the first sound in the same area. If, therefore, the pulmonary second sound is as loud or louder than the first, it is to be considered accentuated. Murmurs in the child's heart may arise from three conditions—congenital malformations, acquired valvular defects, or they may be entirely functional. The possibility of anemic murmurs at the base should not be forgotten, but these, together with other functional murmurs, are, according to Henoch, very rare in children under five years of age. During the first few years abnormal sounds indicate valvular lesions. Functional murmurs, when they occur in older children, are, as a rule, soft; loud murmurs, systolic in character, indicate congenital deformity. Diastolic sounds are rare before six years. In contra-distinction to later life, heart disease in children is preëminently a wasting disease.

Lungs.—In the examination of the chest for disease of the respiratory system some valuable auscultating may be practiced before putting the ear to the chest. It is of great advantage to listen carefully to the breathing, the cry and the cough.

Breathing.—Snuffling breathing may indicate simply a cold in the head; long continued, it points to syphilis. Snoring in sleep, noisy breathing when awake and a nasal tone of voice indicate enlarged tonsils or adenoids, or in rarer cases diphtheritic paralysis of the soft palate. Noisy breathing with dyspnea will suggest retropharyngeal abscess. Sighing may mean nothing or may announce tubercular meningitis. Stridulous breathing may be due to spasm or to real obstruction. Bronchial wheezing is often audible without applying the ear to the chest.

Cry.—The possibilities of information from the character of the cry have been exaggerated. The cries of hunger, pain and discomfort are often very much alike, and the cry of temper, so-called, in infants is a doubtful quantity. Certainly long experience and great acuteness would be necessary to distinguish them apart, were it not for other accompanying signs. In any case a loud, lusty yell gives great assurance of the condition of a child's lungs, and if with a vigorous cry flatness or dullness is found in some part of the chest, a pleuritic effusion is indicated rather than disease of the lung itself.

A cry which has long been held of great diagnostic importance is the piercing scream, known as hydrocephalic and characteristic of tubercular meningitis. Similar screaming, however, is heard in middle-ear disease, and the crying of intussusception is also very violent. In marked contrast to these is the crying of pneumonia, which is feeble and interrupted. A harsh, hoarse tone, when chronic, is characteristic of syphilis. Crying from hunger, pure and simple, is usually interrupted by sucking of the fists, and crying which is silenced by placing the baby on its stomach over the knee is generally due to gas in the intestine, *i.e.*, colic.

Cough.—There is some distinction in the nature of the cough, as evidenced by the terms tight and loose. The former is characteristic of irritation in the larynx before much secretion is established, the latter indicates the presence of quantities of mucus. The cough of pneumonia is short and suppressed, because it causes pain. When a child coughs loudly without wincing it is evidence that the pleura is sound. A cough worse at night, occurring in paroxysms, leading to vomiting, is almost certainly whooping-cough.

DIRECT AUSCULTATION.

Direct auscultation is most satisfactory at the back of the child, because it is so easily held looking over the mother's shoulder. It is, however, not alone sufficient; the front and sides must also be examined. Crying affords considerable difficulty in the way of satisfactory auscultation, yet it offers some compensation in the fact that it forces the child to take deep, long breaths, at which time the conduct of the lung may be made out. Whimpering is a much greater disadvantage than vigorous crying. For the apices of the lungs a stethoscope is necessary, but for the rest the application of the ear directly to the chest will probably prove the most satisfactory method.

Auscultation of the lung on the left is rendered difficult by the heart sounds, which are heard all over this side, but even when the heart is heard distinctly over both sides of the chest it does not mean consolidation, for the child's chest conducts sound much better than the adult's. The fetal chest conducts it even better than the child's.

While the breath sounds in very young infants may be rather weak, as growth progresses they rapidly acquire a harsh sound, known as puerile, which is to be considered normal. The breathing sounds close to the ear as a result of the thinness of the chest wall. If the two sides of the chest differ in loudness, the weaker one is to be suspected. Tubular breathing is occasionally met with in pleurisy with effusion, as well as in consolidation. In pleurisy beginning, the friction sounds sometimes fail in young babies, and we must depend upon the appearance of the breathing for diagnosis. The child will give evidence of sudden pain before the completion of inspiration.

According to Holt, the commonest errors made in the auscultating of children's chests are the mistaking of bronchial breathing for friction sounds, of puerile for bronchial breathing, and the overlooking of fluid because bronchial breathing is present.

PERCUSSION.

Percussion follows auscultation instead of preceding it, as is generally the case in the examination of the adult. Care must be taken that the child is sitting or lying straight, so that its sides are symmetrical and due allowance must be made in estimating the value of sounds elicited from deformed chests. The thymus dullness extending down to the third rib in the centre should not be forgotten.

The front of the chest may be percussed with the child lying on its back, but for the sides and back it should be placed in a sitting posture. The pressure on the abdomen, if it lies face downward, will force upward the diaphragm and give rise to sounds abnormally dull.

Percussion should be gently done with warm hands and the pleximeter finger should not press too firmly, as the chest walls are very elastic. The percussion should be light, or superficial areas of dullness may escape notice. The chest should be percussed during both expiration and inspiration, a process which takes patience, as small children have a trick of holding their breath. For obvious reasons the ability to do this is a good sign. Dullness over limited areas may be due to areas of collapse, old pleurisy, or if over the sternum to enlarged bronchial glands. A cracked-pot sound may be obtained from the chests of infants with perfectly normal lungs on account of the yielding character of the chest walls. Especially is this the case at the back between the scapulæ. Further than this, percussion does not differ materially from that of adults.

The examination of the blood, the secretions and excretions yields very valuable and often indispensable information. The consideration of these matters at length, however, would open up a field too extensive for the limits of this paper.

In dealing with acute cases and attempting to arrange for diagnosis the facts obtained by careful, systematic examination it is well to bear in mind the commonest diseases of childhood in the order of their frequency—acute indigestion, pneumonia, pharyngitis, the acute infectious diseases, meningitis, tuberculosis, rheumatism and nephritis.

It has not been the writer's object in preparing this paper to present anything new and startling, but rather to recapitulate and rearrange knowledge which has been for a long time lodged in more or less accessible corners of medical brains the world over—a process which, occasionally at least, is not without its merits and advantages.

(*For discussion see p. 107.*)

APPENDICITIS.*

BY HORACE J. WHITACRE, B.S., M.D.,
CINCINNATI.

I wish, first of all, to express to the members of the Clark County Medical Association my high appreciation of the honor extended to me in this invitation to appear before you to-day. The high class work with which I am familiar in certain members of this society I take as representative, and as indicative of a lively interest in the problems of medicine.

I have chosen for discussion a very familiar topic, which, I trust, will call forth a very free expression of opinion by the members of the society. It has been customary for writers on appendicitis to introduce their subject by an apology for the presentation of such a threadbare topic. I consider such an apology entirely unnecessary and quite out of place by reason of the extreme importance of this everyday subject in the practice of medicine. I look upon it as one of the heaviest burdens that the practitioner is called upon to bear. I feel, furthermore, that the medical profession as a whole has not yet arrived at definite and fixed principles of pathology, diagnosis and treatment, partly by reason of some variance in the teachings of the masters, partly by reason of the fact that the principles of treatment are constantly becoming more perfected.

I shall not attempt to cover this field, nor shall I indulge in an extensive report of cases, yet wish to present to you for consideration certain points in pathology, symptomatology and treatment.

The lesion in appendicitis is undoubtedly an infection, which may be explained, in a vast majority of cases, by the sequence of obstructed drainage in the appendix, with consequent retention of secretions, increased virulence of germs within the appendix and a lessened resistance on the part of the tissues. A primary interference with drainage of the appendix is *undoubtedly* the most important factor. Other conditions, such as the introduction of the very virulent germs, the inspissation of fecal material and the introduction of foreign bodies (which is rare), will likewise act as direct causative factors. The type of pathologic lesions will vary greatly with the nature of the causative factor.

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* Read before the Clark County Medical Association, Springfield, O., December 5, 1904.

The simplest type of inflammation that we can conceive in an appendix is a catarrhal inflammation of the mucosa, a lesion in which the lining mucous membrane is reddened and somewhat inflamed in a manner quite analogous to that seen in an ordinary sore throat. In a catarrhal inflammation we find a dilatation of the vessels in the sub-mucosa, some inflammation of a simple nature with a moderate exudation of white cells and serum, no death of tissue and a discharge of the products of exudation on the mucous surface. I am convinced that this is a dangerous classification, since the above picture can not be reproduced in the appendix. As a matter of fact, examples of catarrhal appendicitis are rare, and the practitioner is usually soothing his patient and quieting his own fears, perhaps in some cases shirking his duty, by calling a mild lesion catarrhal appendicitis, while, in reality, the patient is suffering from a suppurative appendicitis and the appendix may be actually perforated at the moment he renders this diagnosis. An occlusion of the opening between the appendix and the colon makes of the appendix a closed cavity, and an increasing virulence in the germs present will almost regularly carry the infection over into the suppurative class with complicating necrosis, perforation and peritonitis.

In the suppurative variety the lymphatic structures of the sub-mucosa become densely infiltrated with a purulent exudate; the muscular walls become likewise infiltrated, and necrosis will involve the mucosa and sub-mucosa, or all of the coats of the appendix at one spot, or in the entire appendix. When a fecal concretion is present to produce pressure anemia in the mucosa, against which it impinges, this will be the spot of necrosis and the necrosis will probably extend promptly through all the coats. In other cases necrosis will involve several areas of varying size in the mucosa, independent of concretions, and infection rapidly extends through all coats. Extension of the necrosis to the peritoneum means a direct leak of infective contents into the peritoneal cavity. It must be definitely understood, however, that this sort of rupture in the wall of the appendix is not essential to a peritonitis. In a virulent infection the germs rapidly find their way through the wall of an apparently intact appendix and cause a virulent, spreading inflammation of the suppurative type in the peritoneal cavity.

A third gangrenous type of lesion is described in which the entire appendix is immediately converted into a gangrenous mass, and the patient rapidly succumbs to a generalized peritonitis without adhesions.

Three forms of acute appendicitis are therefore described. I wish to make the point that this classification is valuable and extremely important in the study of this disease, yet that it has very little value at the bedside. It is impossible in such a vast majority of cases to form any idea within the first few hours as to the type of lesion that is present, or will probably develop, that we must admit that our knowledge of the pathology of acute appendicitis will not aid us greatly in the diagnosis except in this way: We are taught by a study of pathologic lesion in connection with clinical experience to expect any degree of lesion with the mildest symptoms, and we are taught that every case should be operated upon immediately before the serious lesions have time to develop. In illustration of this point, I wish to cite a case operated upon less than one week ago.

I was called to see a young lady, twenty-four years of age, suffering from an acute pain in the region of the appendix. She gave a history of having had an attack of appendicitis four months ago, which passed over in four or five days without much constitutional reaction, the temperature never having gone above 100°. In the present attack she had suffered her first symptom in the region of the appendix twenty six hours before I saw her. She had experienced, first, discomfort in the right iliac fossa; then rather severe pain, in two or three hours accompanied by nausea and vomiting. Her pain continued throughout the night, but her physician, Dr. Buttemiller, was not called until two hours before I saw the patient. When I saw her the abdomen was rigid on the right side, but she had not vomited since the day before; the right thigh was somewhat contracted; her temperature was 100° and her pulse was 120; her facial expression was that of perfect health; she was bright and cheerful. We met with severe opposition when immediate operation was advised, yet our arguments prevailed and she was operated upon within two hours. On opening the peritoneum large amounts of purulent material poured out from a peritoneal cavity that presented not a single adhesion. My first exploration in the region of the appendix brought out a fecal concretion—absolute evidence of perforation. At least one pint, perhaps as much as one quart, of sero-purulent material—certainly nearer pus than serum—was removed from the free peritoneal cavity. The appendix which I present to you was free in the peritoneal cavity and was easily removed.

This case illustrates beautifully the point I wish to make, viz., no physician, no matter what his experience or ability, can predict at the onset the sort of appendicitis that will develop. Nor can he state with a safe degree of accuracy the lesion which is present in the abdomen. Operation within the first twenty-four or forty eight hours of an attack is the only line of treatment which will safely meet the pathologic indications.

The pathologic changes in chronic appendicitis are somewhat different. Here we have an appendix damaged by previous attacks of acute inflammation. The appendix has been left with a cicatricial stricture which interferes with drainage; bands of adhesion have distorted it or the appendix has sloughed off completely at its base and the tip remains as a focus of disease. It is certainly true that one attack of appendicitis predisposes to another; a second attack certainly makes a third probable; a third attack makes a fourth almost a certainty. Every layman, and certainly every physician, knows of exceptions to this rule. Let us not base our practice upon the exceptions to the rule, pleasing though it is to find some loop hole through which to escape the dreaded knife.

The *diagnosis* must be made early in appendicitis. The symptoms are certainly sufficiently definite, in most cases, to justify a positive diagnosis at the time of the first visit, and such patients should not be observed under an expectant line of treatment. The symptoms will usually appear in the following sequence: first, sudden and severe pain in the abdomen; second, nausea and vomiting; third, general abdominal sensitiveness, with a point of most marked tenderness over the region of the appendix; fourth, fever. The appearance of symptoms in the order mentioned is considered by Murphy to be almost invariable, and for this reason diagnostic. Murphy states that he would refuse to operate upon a patient if the fever or the nausea and vomiting had appeared before the pain. This modification of the sequence would be indicative of some other disease.

Pain is a constant and uniform symptom during the first few hours of an attack. When pain subsides suddenly within the first thirty-six hours it regularly means a liberation of the infected material through the neck of the appendix into the bowel, a rupture of the appendix into the peritoneal cavity or complete gangrene of the appendix. Since the abdominal viscera are devoid of sensory nerves, the pain of appendicitis must be explained either by an inflammation of the parietal peritoneum or by traction upon the mesentery. The first pain of appendicitis is undoubtedly due to the traction on the mesentery caused by severe muscular contraction in the appendix. Umbilical pain is due to an active peristalsis in the intestines which causes traction on the intestinal mesentery. The pain of appendicitis which occurs after the first thirty-six hours is due to peritoneal inflammation.

Nausea or vomiting is the rule, and this may be only a single initial attack of nausea. This nausea is undoubtedly reflex and due to over-distension of the appendix. Vomiting is a serious symptom if it returns after an interval or becomes persistent and continuous, especially so if it persists after the withdrawal of food. Such persistence means peritonitis, and the vomiting will usually continue until the time of death.

Abdominal sensitiveness is primarily diffuse, but very promptly becomes localized in the right iliac region over the seat of the appendix. McBurney's point of tenderness represents approxinately the base of the appendix or the point at which the first set of retroperitoneal lymphatic glands is placed. The point of deep tenderness does not, therefore, indicate the location of the appendix, but indicates the location and degree of inflammatory reaction at the base of the meso-appendix, not a sensitive appendix.

Temperature is never absent at the onset of an acute infective case. An absence of temperature during the first thirty-six hours is sufficient reason for turning the attention to nephritic colic, ovarian pain or other disease. The temperature may all subside within the first twenty-four hours after the onset; if this subsidence is sudden it probably means gangrene of the mucosa and a temporary cessation in absorption. Temperature must not be looked upon as a manifestation of pus, but of absorption; and too much stress cannot be placed upon the unreliability of temperature as a guide in the treatment of appendicitis. I hear so many men state that they are governed in their opinion as to operation by the behavior of pulse and temperature. It is true they are valuable elements in the picture, that they sometimes furnish us with our positive indications, yet one must never forget that a severe peritonitis may be present with a subnormal temperature, or that the patient may have suffered a perforation a few hours before our first visit, when the temperature may be found to be normal and the pulse not alarming.

The *pulse* is variously rated by different observers as of the utmost importance or of little or no value. As has just been stated, I feel that it is of much value sometimes, but that it is absolutely unreliable, since a patient may have a normal pulse in the presence of perforation.

Palpation of the abdomen will reveal much or little to the observer in proportion to his diagnostic acumen. A general abdominal rigidity will be present at the onset, but the right rectus muscle alone is rigid after a few hours. This rigidity varies from the slightest increase in tension to extreme boardy hardness. Rigidity of the rectus muscle will usually prevent palpation of the appendix. A localized or circumscribed contraction of the fibres of the rectus directly over the situation of the appendix occurs with frequency in appendicitis, and gives physical signs so closely resembling an appendix tumor that the most expert are often deceived. After the muscular rigidity has passed off it may be possible to palpate a much-distended appendix, the much-thickened peri-appendiceal tissues or a definite pus collection. The detection of a tumor is by no means essential to the diagnosis; indeed, the most serious and fatal types of appendicitis are unaccompanied by adhesions or tumor.

Percussion over the area involved has practically no value.

The *clinical course* of appendicitis will vary with the nature of the bacterial infection. A streptococcus infection causes the maximum reaction, the highest grade of symptoms and the most rapid termination. The staphylococcus infection is least severe, and shows a more marked tendency to the formation of peritoneal adhesions and circumscribed abscesses. The colon bacillus may be said to stand midway between these two. The amount of pus in a staphylococcus infection is usually small, in a streptococcus infection there is usually no pus, while the colon bacillus produces pus with an offensive odor, usually in considerable quantities. The elevation of temperature, the tympanites and the collapse are usually slower in appearance with the colon bacillus than with the other types of infection. An acute infective appendicitis may terminate within a few hours by the discharge of pus into the cecum; it may result in a circumscribed abscess behind the cecum, which subsequently discharges into the bowel or externally; or peritonitis may develop from extension of the germs to the free peritoneal cavity. This peritonitis is confined to the immediate region of the appendix by adhesions, or it spreads to the general peritoneal cavity. When the general peritoneal cavity becomes involved the bowel becomes paralyzed and distended, the abdomen becomes drum-like, vomiting is continuous, the patient becomes profoundly toxic, passes into a condition of collapse and dies within a few days. It is important to remember that collapse does not mean perforation. It is regularly a terminal symptom, since it means an overwhelming toxemia.

The question of treatment in appendicitis is full of interest, and is still a battle-field for almost mortal combat. Only within the past few days I have seen these heavily leaded headlines in one of our local papers—"Chicago Doctors Disagree as to Operation in Appendicitis." Physicians do disagree upon certain points in the operative treatment of appendicitis, but the laymen, unfortunately, carries the disagreement beyond the real limits of diversity in opinion, and too often say Dr.—— is too anxious to cut, he always advises operation in appendicitis; Dr. So-and-So only operates as a last resort. I believe that the profession, as a whole, has now become converted to the idea that appendicitis is a surgical disease from start to finish. Concerning this point, then, there is no disagreement. Next, I believe that the surgical profession is without discord upon the question of operation within the first forty-eight hours. It is conceded by all that the most desirable time to operate is within the first thirty-six or forty-eight hours of the illness. Until the expiration of this time the infectious material is usually confined within the appendix. The lesion and the infection is a purely local one, and, in view of the dire possibilities in every case, and the absolute inability of any man to predict the type of the disease that will follow, the only rational procedure is early and invariable removal of the appendix by an operation which possesses little more danger than an exploratory laparotomy. The mortality in cases of this sort should not exceed 1 per cent., and some operators have reported one death in five hundred operations. It is in reference to the period extending from the second to the seventh or eighth day that controversy has arisen among surgeons. Some surgeons advocate operation in every case and at any period in the course of the disease. Others oppose operation and advocate the so-called rest treatment. The advocates of operation at all stages insist that the focus of infection and the infective material that has accumulated about the appendix must be removed in order to free the patient of the depot of toxic supply. Others insist that the operative mortality obtained by operation in this stage far exceeds that obtained by a non-operative course, and the treatment of the patient in a manner which will render conditions favorable for the formation of circumscribed abscess or the natural cure of the disease. My own position in this matter is a rather neutral one, based upon clinical experience, with strong views as to the efficacy of each method when applied to the proper case. I do not believe that a fixed rule will hold for all cases that reach us during this so-called second period. The patient's condition must determine the treatment. When the patient presents himself in a seriously infected condition, when the pulse is elevated and the temperature is low, the abdomen distended, vomiting re-established and the patient looks anxious, I believe that operation should be done immediately. The operation must be skillfully performed, however, or it is equivalent to murder. A large incision with a prolonged search for the appendix or an extended manipulation of the bowel will certainly result fatally. An operation which involves a small opening, slight traction on the tissues, practically no manipulation on the intestines, rapid removal of the appendix if it is in sight, abundant tube and gauze drainage, will aid the patient tremendously, and the proper conduct of his convalescence will save his life in almost every instance.

In this operation I regularly use the gridiron or the McBurney incision. The appendix is promptly exposed, without tearing adhesions if possible; the appendix is quickly removed, pus liberated, the cavity mopped out, abundant gauze and tube drainage introduced and the patient put to bed in the sitting posture. A wet dressing, preferably of acetate of aluminium, is applied over the wound and the hottest bottles that can be endured are constantly applied. The patient's stomach is regularly washed before he leaves the operating-table and nothing is introduced thereafter. Salt solution is freely introduced per rectum.

So much for the urgent cases. When I see a patient in the second period who does not present these alarming symptoms, whose temperature and pulse have become established and are at a standstill, whose abdomen is not distended and his facial expression is good, I regularly advocate the so-called rest treatment. The rest treatment is conducted as follows: The patient is placed in the sitting posture, the stomach is irrigated thoroughly, and if this does not quiet the pain and vomiting completely, it is repeated. The colon is likewise irrigated; the patient is fed every five hours per rectum and hot or cold applications are made over the abdomen. Absolutely nothing is administered per mouth, unless this becomes too irksome, when water is given if well borne.

The third stage of the disease likewise presents little room for difference of opinion. If the inflammation has subsided without abscess formation nobody would advocate operation until three weeks have passed and the inflammatory process has fairly subsided. If an abscess has formed in the region of the appendix there is still no doubt as to the proper course to pursue —the abscess must be opened and drained. I regularly open such abscesses under cocaine anesthesia when the abscess is sufficient in size to make it fairly certain that the peritoneum is closed anteriorly. The gridiron incision is made very near the iliac spine in these cases and the peritoneal cavity is not opened. No effort is made, as a rule, to find the appendix. When the abscess is large or extends up along the outer side of the colon I regularly make a second incision in the loin, introduce a tube the size of my thumb and allow the anterior opening to close after the first forty-eight hours. I never irrigate such cavity.

Just at this point allow me to introduce a warning against the rough handling of a patient suffering from circumscribed abscess. I have lost just two patients after operation for appendicitis. One was a boy whom I saw for the first time in a moribund condition from a generalized septic peritonitis. The operation was performed in a small town on the kitchen table; the appendix was removed in fifteen minutes and free drainage introduced, but the patient succumbed. The second case was a large abscess case. The patient had been successfully and satisfactorily carried through ten days of the disease under careful rest treatment in Christ's Hospital, and was taken to the operating-room for the opening of a large abscess that had formed around the appendix. An incision two inches long was made near the iliac spine, the peritoneal cavity was found to be completely walled off and a blunt instrument was pushed into the abscess and a tube introduced. No manipulation was indulged in. The operation was no more serious than the opening of an abscess of the thigh. This patient died in collapse within twenty-four hours; autopsy revealed a rupture of this abscess into the free peritoneal cavity at a point remote from the seat of operation. It is impossible that the operation could have been responsible for this rupture, and I am certain that the rupture occurred during the transfer of the patient to the operating-room.

I have spoken very little of chronic appendicitis in this discussion. I feel that it does not particularly require discussion, since there is at the present day a well-established belief that a patient who suffers from chronic appendicitis should be operated upon in the interval and relieved of this serious menace to life and health.

ARGYROL IN ACUTE OTITIS MEDIA.*

BY L. R. CULBERTSON, M.D.,
ZANESVILLE, O.

This is a subject of interest to the general practitioner as well as the aurist. The country practitioner has not the time, or perhaps the opportunity, to call an aurist in a case of acute otitis media, and he must act promptly, lance the tympanum early, and use a powerful, yet non-irritating, bactericide to cut short the disease, which may soon become a mastoiditis with all its train of evils.

In argyrol we have such an agent. "Argyrol contains 30 per cent. of silver, does not coagulate albumen nor precipitate chlorides; hence it is not caustic, nor is it chemically changed by secretions. A 20 per cent. argyrol solution corresponds in strength with a 10 per cent. solution of nitrate of silver."

Dr. E. B. Gleason recommends it in chronic ear diseases, and Dr. M. D. Lederman likewise recommends it. Dr. Robinson, of the Manhattan Eye and Ear Hospital, has used a 50 per cent. solution of argyrol in a few cases of acute purulent otitis media with pleasant results. He states that the infectious process seemed to be retarded and that the extension to the mastoid did not occur as frequently. It should be instilled in the ear three or four times daily.

I will cite a few cases in which the drug was used with success in my practice.

CASE I.

Mr. G. K., intense earache, extreme

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* Read before the Muskingum County Medical Society.

pain and tenderness over mastoid. Pain came on yesterday (April 25, 1904). Temperature 100.4°. Lanced drum and there was a free discharge of sero-purulent matter. Gave solution of 25 per cent. argyrol to be dropped in the ear every hour. April 26, temperature 97°; no tenderness over mastoid; no discharge. Recovered with no further trouble and hearing normal.

CASE II.

Mr. G. S., March 23, 1903. About two weeks ago had grippe and right ear gathered and broke and discharged freely for a week and then stopped. Another physician had been treating him. When the discharge stopped pain developed in the mastoid, radiating into right temple and down the neck. Mastoid tender on pressure at tip and auditory canal very tender. Temperature (morning) 99°. Removed some offensive pus on cotton-holder. Enlarged perforation in drum for good drainage and gave 25 per cent. solution of argyrol every two hours, dropped in ear.

March 26. Temperature normal. Some tenderness of mastoid. No discharge.

March 30. No tenderness, no fever, use argyrol twice daily. No more trouble.

CASE III.

Mr. C. E. Had grippe two weeks ago (March 14). Drum broke and discharged considerable pus. No tenderness over mastoid. Temperature normal. Good-sized perforation in drum. Gave 25 per cent. solution argyrol. Syringe ear with it twice daily.

April 9. No discharge, stop argyrol and syringe ear to clear out medicine.

April 23. Ear well.

CASE IV.

Mrs. L. W., March 25, 1904. Has been under another physician's care for a week or more. Has acute otitis media, but drum has not broken yet. Temperature 99.5°, great tenderness over mastoid. Lanced drum and there was a discharge of thick pus. Wash out ear with 25 per cent. argyrol every two hours. Apply ice to mastoid.

March 26. Ear discharging freely.

March 27. Stop ice. Temperature 99.4°. Continue argyrol.

March 29. Some discharge.

May 5. No discharge, use medicine twice daily.

May 10. Well. No further trouble.

CASE V.

Mrs. C. E., March 19, 1904. Has acute otitis media. Temperature 100°. Great pain radiating from mastoid over neck and head. Great tenderness on pressure over mastoid. Drum opaque and bulging. Is pregnant six months. Lanced drum and large amount of pus escaped. Irrigate ear every three hours with 1 : 4,000 corrosive sublimate.

March 20. Ear discharging freely. Very tender over mastoid. Same treatment and squirt in a syringeful of 25 per cent. argyrol every three hours. Apply ice over mastoid.

March 21. Temperature normal. Stop corrosive sublimate and ice. Continue argyrol.

March 22. No discharge. Use argyrol 3 t. d.

March 24. No more discharge. Stop medicine. No further trouble.

Artificial Ear Drum.

E. L. Mather, Akron (*Cleveland Medical Journal*, July, 1904), writes on the use of the small cotton ball, saturated with a solution of carbolic acid, rectified spirits and glycerine as an artificial drum. He comes to the following conclusions:

1. A perforation in the anterior superior quadrant is an unfavorable case for its use.
2. A perforation in the anterior inferior quadrant sometimes yields good results.
3. If the ossicles are intact, but their articulations broken or separated, with a perforation in any part of the posterior half of the tympanic membrane, the chances for a favorable result are good.
4. If the incus is largely destroyed and a large perforation is present while the foot-plate of the stapes remains intact and freely movable, although its crura may be entirely destroyed, the result is nearly always excellent.
5. In cases in which there is no perforation, but a stretched, flabby and freely movable tympanic membrane, the chances are about even, provided the patient hears the tuning-fork held in front of the nares while the external canals are closed.

C. R. H

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

Meeting of November 21, 1904.

OFFICIAL REPORT.

THE PRESIDENT, S. P. KRAMER, M.D., IN THE CHAIR.

STEPHEN E. CONE, M.D., SECRETARY.

DR. JAMES W. ROWE read a paper (see p. 93) entitled

Systematic Examination of Sick Children.

DR. M. L. HEIDINGSFELD: I am sure that we are much indebted to Dr. Rowe this evening for his interesting presentation of observations with which we are all more or less familiar, and without which our diagnostic powers would suffer material impairment. The chief value of the paper lies in that it refreshens the memory relative to certain diagnostic data which for the most part are of mere confirmatory importance. On the other hand, it is open to the serious criticism that it conveys the misleading impression that the diagnosis can be readily established in the various affections enumerated from what was briefly stated in paper. For example, the statement that "an eczema about the borders of the scalp in young children is diagnostic of pediculosis capitis, to the exclusion of all other manifestations," is essentially wrong and misleading. Eczema frequently occurs in this locality in infants and children from other causes, and when due to pediculosis is invariably ascompanied by a readily recognizable and far more diagnostic--almost pathognomonic—symptom, namely, the presence of larvæ upon the hairs. Likewise the presence of rhagades around the angle of the mouth is by no means pathognomonic of hereditary syphilis, but may result from any form of chronic inflammation of an infiltrating or excoriating character, as eczema, etc. The Hutchinson teeth likewise are not pathognomonic, but may result from any condition, general or local, which interferes with their proper formation and development. In fact, in the absence of a well-defined history or other diagnostic evidence, the diagnosis of hereditary syphilis requires at least three of the so-called classical symptoms of Hutchinson—namely, deformed teeth, interstitial keratitis, rhagades, impaired hearing, saddle-shaped nose, etc.—to form a tripod upon which the diagnosis can securely rest. In hereditary syphilis, also, a much more important and far more diagnostic symptom —namely, osteochondritis, epiphysitis (Wegneri), with its accompanying pseudo-paralysis—was entirely unmentioned. Similar observations can be drawn from a host of other affections with which the paper dealt. If we bear in mind that nearly all which is presented in the paper is merely part and parcel of a big complex of unnoted symptoms, from which the main fragment of the diagnosis must be constructed, and the portion presented possesses confirmatory rather than pathognomonic or even diagnostic value, its true worth will be established and a misguided conception avoided.

DR. E. W. MITCHELL: The doctor has given us an excellent paper which has summed up in a concise form a very important subject. The examination of children is sometimes a matter of great difficulty, but usually is a source of great satisfaction from many points of view. The child cannot lie. In an examination which is chiefly physical you are not so apt to be misled by statements of the patient. The suggestion that we should listen to the story of the mother I think is always a good one, provided you weigh the mother's story carefully. If you patiently listen you will usually get along better than if you try to interrupt and ask questions. Let the mother tell her story in her own way, and gather from it the salient points of importance. Very often an intelligent mother will give you most important clews. Then weigh the evidence and sift it out. In the meantime your inspection of the child can be going on and the child getting accustomed to your presence. Very often it is a good plan not to notice the child when it first comes into your presence.

In examining the throat of a child my favorite position is to have the child seated on the lap of the mother, the back and head resting against the mother's shoulder and chest, the mother (or the nurse) holding the hands and arms of the patient. With one hand I steady the head of the child, holding it firmly and depressing the tongue with the other hand. In this position the child is most easily controlled.

In examining the crying child's chest auscultation is more valuable than percussion. It seems to me I get more satisfaction and information out of it as to the condition of the lung. It is an advantage to have the child cry. You get the vocal fremitus with your ear pressed against the chest, and at the same time you listen to the respiratory rhythm and for râles. You also at the same time get the long inspiration when the child breathes deeply in crying. In percussion sometimes mistakes are made where there is a deformity of the chest. You will find if the child is in a strained position or the chest is bent over so that the chest is concave on one side and convex on the other, there is a slight difference in the percussion sounds.

The importance of a systematic examination of the child is something that we are very apt to forget, and our mistakes usually arise from failure to go through a complete and systematic examination. How often does it occur that a pneumonia is overlooked in those cases which begin with symptoms of meningitis and in those where the symptoms in the early stages are almost entirely on the part of the gastro-intestinal canal? Sometimes mistakes occur in not examining the throats of children. This ought always to be examined in sick children. At times we get pain at a point distant from the region which is the seat of the trouble. As Dr. Rowe has so well pointed out, close observation may detect some minute sign which will put us on the track of a correct diagnosis.

The doctor has covered the ground so thoroughly there is really very little to be said in addition to what he has brought out in his paper.

Dr. Rowe: In reference to pediculosis, the eczema on the back of the neck at the roots of the hair is not alone an absolute indication of pediculi capitis, but its presence should always cause a careful search for nits.

In reference to syphilis, the fact that a child's upper lip is sore does not positively indicate syphilis, but if it is chronically sore as a result of a constant acrid discharge from the nose we ought to consider this possibility and look for other signs.

Generally one is pleased, even when not very old, with anything that excites retrospection, and as this paper is so elementary that it has certainly carried some of you back to college days, I hope for that reason if for no other it will leave a favorable impression.

THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of December 1, 1904.

The President, Richard C. Norris, M.D., in the Chair.

Homer Gibney, M.D., Chairman.

Chorio-Epithelioma Malignum.

Dr. P. B. Bland: Patient was thirty-one years of age. One maternal aunt died of cancer of the uterus. The patient herself always enjoyed comparatively good health. She was married at eighteen and had five labors. The first four were normal, the fifth occurred at the eighth month and was hastened or produced by sustaining a severe fall. Her symptoms began about four months after her last labor and six months before admission to the hospital. These consisted in more or less vague and indefinite pains in the lower portion of the abdomen, which were of a dull, aching, boring character. Two months prior to admission she suffered from a rather free, serous and offensive discharge, which soon became tinged with blood. The bleeding progressively increased in intensity. Patient on admission was extremely pale and anemic, and had lost considerable flesh. Examination revealed the uterus twice its normal size. It was more or less soft in consistence, the cervix was large and the os admitted the tip of the index finger. There was no palpable pathological alteration in the tissues outside of the uterus. The patient was prepared for operation, but before opening the abdomen the uterus was dilated and a nodular mass discovered in its interior. Some of this was removed and resembled so strikingly malignant disease that hysterectomy was decided upon and performed.

Morbid Anatomy.—The uterus was possibly two or two and one-half times its normal size; the enlargement was uniform. The uterine wall was thickened and showed changes found in subinvolution. Occupying the interior of the uterus on its posterior wall and in the fundal region, a large irregular nodular mass was found. This was of a greenish blood-coagula color, and of rather tense consistence. The nodules varied in size from a pea to a man's thumb. The mass did not show any line of demarkation between itself and the uterus, but apparently infiltrated the uterine wall to the extent of three eighths of an inch. The ovarian vein of the right side was distended greatly by an organizing thrombus. A portion of this was protruding from the vessel after removal. Microscopical examination of sections of the nodules revealed the tumor to be a typical chorio-epithelioma. The patient was living and well eight months after the performance of the operation, without any subjective manifestations of recurrence of the disease.

The writer reviews the early history of chorio-epithelioma, and believes, from his observations and study of the genealogy, that there should be no controversy as to the nomenclature of these tumors. He believes, with Marchand, that they develop, as was recognized in his case, from the epithelial coverings of the chorionic villi, and, therefore, that chorio-epithelioma malignum is an appropriate term. He thinks, in discussing the pathology, that the line of invasion in chorio-epithelioma is distinctively characteristic of the tumor, differing from carcinoma in that it is soft, mushy and sloughing. In carcinomatous tumors the line of invasion, as is well known, is hard, dense and firm.

He also spoke at some length of other neoplasms containing choriomatous cells, and believes, with the late observers, that they should be classed with the teratoma and not considered as true chorio-epithelioma, for it would be better, he thinks, to adopt a nomenclature which would distinguish those closely connected with gestation and those arising independetly of it.

The author also discusses in detail the etiology of these tumors, reviewing all the theories thus far advanced as to their causation. He strongly inclines to Erlich's side-chain theory.

The high type of malignancy exhibited by these tumors the writer also believes to be due to the time of its occurrence or its association with the preceding pregnancy. He discusses in full the symptoms and diagnosis of the condition, and also the prognosis. The latter, he says, is extremely grave. It is perhaps the most malignant of all tumors, occurring as it does during the full psysiological activity of the patient, and with the physiological process of pregnancy, in an organ in which the blood-vessels are greatly multiplied and enlarged, and, therefore, in a state highly favorable for the transportation of malignant cells throughout the body. The outlook for the patient suffering with this condition cannot positively be asserted, however, to be either good or bad, in view of the fact that spontaneous healing has occurred in some, and that even in extensive cases of metastases after removal of the primary site of infection patients have recovered.

The treatment for the condition should be the same as for malignant disease elsewhere in the body; complete extirpation of the uterus in the field of healthy tissue at the earliest possible moment should be the only operative resource considered.

Dr. B. C. Hirst: I have seen two cases of chorio-epithelioma, one of which began immediately after labor and ended fatally in three months. The patient had refused operation at first, later returned to the hospital soliciting it, but it was then too late. The second case was a metastatic tumor in the brain following hydatidiform mole from which the patient died about six months after expulsion of the diseased ovum. There was nothing in the intra-uterine examination to indicate malignancy.

The most interesting question in this connection to the practical man is that of diagnosis. I had a case last year of which I have a good drawing. I was called to see a woman who had been bleeding, off and on, during pregnancy; she was delivered prematurely between the sixth and seventh month. Three or four days after delivery she began to bleed, and the hemorrhage continued so profusely that her physician thought I would scarcely arrive in time. I found the woman in a desperate condition. The vagina was packed and she was sent to the University Hospital. In commenting upon the case the next day I called the attention of the class to the causes of hemorrhage from the uterus after childbirth, and mentioned, amongst the causes, retention of some portion of the ovum, and, as the rarest of all causes, malignant growth in the womb. I said, however, that while it was rare, it should be borne in mind, and if no other cause could be found we should think of malignency. I then proceedad to examine the interior of the woman's womb, and found, to my surprise, that I removed with the placental foreps a curious brain-like material which macroscopically was most suggestive of malignancy. It looked exactly like the material removed from cases of adeno-carcinoma of the endometrium. Specimens were submitted to three different pathologists. Two thought it was chorio-epithelioma. The third did not think it was, but as the history was so suggestive and the appearance of the specimen under the microscope so suspicious he recommended hysterectomy. On the advice of the three pathologists, and prompted by my own feelings, I removed the uterus. Inside of the womb, near the fundus but not at the placental site, was to all macroscopic appearances a well-developed neoplasm. I had this studied carefully under the microscope, and all the pathologists to whom I submitted it agreed that it was not a chorio-epithelioma, but they were unable to tell me what it was. There was an infiltration of necrotic material and granulation cells which formed a well-marked tumor, extending above the endometrium about half an inch and reaching into the myometrium about one-quarter of an inch. I had therefore removed the woman's womb on a diagnosis of chorio-epithelioma and the operation proved to be unnecessary. Fortunately the patient made a good recovery. I cannot see how this mistake is to be surely avoided in the future. It is easy enough to make a diagnosis in well-marked cases that are already inoperable. What we want, however, is to make the diagnosis early. In the present state of our knowledge, I do not see how this can be done with certainty. In every case of pathological condition of the endometrium after childbirth we may see the same multiplication of syncitial cells and the same inversion of the myometrium as in chorio-epithelioma, and no one yet has been able to tell me how to distinguish between the two. By the microscopic appearance of scrapings from a case of retained placental fragments the diagnosis of chorio-epithelioma might be justifiable. The only light we have is that in addition to the microscopical findings, we must have a larg exuberant neoplasm in the uterus, profuse hemorrhage, evidence of erosion of the uterine wall, and, in addition, possibly metastasis. If, however, we wait for all these symptoms our operative results are not going to be particularly brilliant.

Dr. Bland, closing: The diagnosis of chorio-epithelioma is somewhat difficult, but from the history of the case and the microscopical findings I think we should, as a rule, be able to make a reasonably positive diagnosis. We should not, however, depend upon the microscope alone, for the clinical manifestations are extremely valuable indeed.

To my mind, a digital examination of the interior of the uterus would be the best means at our command to establish the true character of the lesion, though I do not think, just as in other deparments of medicine, an absolutely positive diagnosis could even be made by the execution of this procedure. A characteristic of the growth that should help us is that it is almost always in the fundal region and on the posterior wall. Moreover, the peculiar and characteristic conformation of the basal portion of tumor is so entirely different from other neoplasms that it in itself should strongly suggest the presence of this tumor.

I desire to express my gratitude to Dr. E. E. Montgomery for the privilege of reporting this case, which occurred in his service at the Jefferson Hospital.

A Case of Post-Typhoid Ovarian Abscess.

Dr. Barton Cooke Hirst: The first patient, a young woman, was admitted to a Philadelphia hospital with the symptoms of typhoid fever. One month subsequently marked pelvic pain developed; two months from time of admission she was discharged. The pelvic pain continued for three months after leaving the hospital, when she consulted the writer. He found marked abdominal tenderness, fever, a weak, rapid pulse, and to the right of the uterus an inflammatory mass the size of an orange. A diagnosis of post-typhoid ovarian abscess was made, based upon the history and physical signs. Upon operation the ovary was found converted into a single chambered cyst, which, on bacteriological examination, contained a pure culture of colon bacilli.

A Case of Suppurative Cholecystitis with a Gall-Stone and an Intraperitoneal Abscess.

The second patient was a young woman who had recovered from an attack of typhoid fever. Three months previous to the author seeing her, she had noticed a lump below the ribs on the right side. On pelvic examination a retroverted uterus and prolapsed ovary were found. The following operations were done: Dilatation and currettement, ventro-suspension, shortening of the infundibulo-pelvic ligament. The gall-bladder was incised, a stone and several ounces of pus were removed; an abscess in the peritoneal cavity below the gall-bladder was also evacuated. The patient made an excellent recovery. The pus was submitted to a bacteriological examination and contained a pure culture of an unidentified bacillus of the colon group.

Dr. Muller: The typhoid bacillus is probably always an inhabitant of the gall-bladder during the attack of typhoid fever, producing a slight degree of cholecystitis in many cases, which disappears on subsidence of the attack and requiring, in the great majority of instances, no treatment whatever. Sometimes suppurative cholecystitis occurs after typhoid fever, usually in a few weeks or months after the disease has subsided.

In the last fifty-five bacteriological examinations in the German Hospital of bile aspirated during operations performed by Dr. Deaver, thirty-two cultures were obtained from the fifty-five, seven of which were typhoid bacillus in pure culture; of the others, in twenty-one the colon bacillus was obtained, in three the staphylococcus, and in one streptococcus. The typhoid bacillus produces widespread lesions of the gall-bladder walls, cholecystectomy being invariably required in the cases examined. Histologically the gall-bladder shows ulceration of the mucous membrane, serous and cellular infiltration of the walls and a plastic exudate covering the serosa. In one case a fistula existed between the gall-bladder and stomach. I recall an interesting case on the service of Dr. Frazier, at the Philadelphia Hospital, of a young girl of fifteen who had had an attack of typhoid fever a year previously and entirely recovered. She became pregnant, was delivered at term and two weeks afterward she developed symptoms of severe cholecystitis. Here to all appearance she was perfectly well, yet a calculus had developed within the gall-bladder and did not give rise to trouble until a subsequent infection with the colon bacillus drove it into the cystic duct. In cases in which there is a distinct history of typhoid fever it is readily understood how the infection would be carried to the gall-bladder by the blood, either of the general or portal circulation. In the other cases to which I have referred there was no history of typhoid, yet there was pure culture of the typhoid bacillus found in the gall-bladder, and in these cases a consideration of the source of infection makes it evident that there is some point of focal necrosis within the intestinal canal, not sufficient to give rise to any intestinal lesion, from which the bacillus is carried on to the gall-bladder by the portal circulation, giving rise to the cholecystitis.

Exhibition of Specimens.

Dr. Barton Cooke Hirst: The first exhibit is an illustration of that rather rare condition—myxomatous degeneration of an adenomyoma of the uterus. This is only the second case I have seen. Myxomatous change ranks among the rarest degenerations of fibroid tumors.

Primary carcinoma of the clitoris is likewise rare. Carcinoma of the vulva anywhere is rare, but carcinoma of the clitoris is the rarest of all. I have seen six cases of carcinoma of the vulva and only one of carcinoma of the clitoris. Primary carcinoma of the vagina is also rare. In this case the disease attacked the posterior vaginal wall within the posterior commissure and extended two-thirds of the way up the vaginal canal, leaving the anterior third of the vagina free of the disease.

The most interesting question in this connection is whether the uterus must in all cases be removed. I resected three inches of the rectum with the posterior two-thirds of the vagina, but did not remove the uterus. The remnant of the vagina was made into a narrow canal to carry off the menstrual discharge. The patient recovered from the operation, but has been lost sight of since.

Exhibition of Specimen.

DR. A. J. DOWNES: This specimen of a uterus was removed yesterday from a woman sixty years of age, and it shows the features which in some cases are considered to be inoperable. The woman came from the South, and in April last she had the first sign of hemorrhage after ten years' cessation. She was examined by a doctor in the city. A correct diagnosis was made, but advice given against operation. Then she consulted an eminent gynecologist in New Orleans, who made the same diagnosis and advised against operation. I saw the woman about a week ago, and she appeared to me to be in very good condition physically from general inspection. Upon examination I found a small mass protruding below what should have been the posterior wall of the uterus, extending an inch down on the posterior wall. The anterior lip of the uterus could be made out. By both vaginal and rectal examinations there was a fixed mass at the site of the cervix. Owing to the woman's good general appearance I thought I would give her a chance by operation, and yesterday I did a panhysterectomy. I first sterilized the vagina and did not touch it again. The fundus of the uterus is perfectly normal, the cervix is twice the size of the fundus. I removed the uterus through the abdominal incision without the use of a ligature, and the closing part of the operation consisted in clamping off the vagina and leaving it shut. Six months ago this would have been an easy operation and practically curable, for there was evidently no cancerous tissue left on the removal of this. This was taken out by the electrothermic clamp, the method of heat and pressure for hemostasis, and practically without loss of blood.

CINCINNATI MEDICAL LIBRARY ASSOCIATION.]

Second Annual Meeting.

The meeting was called to order at 4 P.M., November 23, 1904, in the Library Rooms of the City Hospital, Dr. H. W. Bettmann in the chair.

Annual reports were read by the Secretary, Treasurer, Librarian and President.

The Executive Committee was instructed to obtain a charter from the State, and to have the Association duly incorporated.

The question of the future location of the medical library was fully discussed. It was determined to call a special meeting of the Association to consider the question of quarterly meetings and the subjects of importance. The election of officers resulted as follows:

President—Henry W. Bettmann.
Vice-President—Joseph Eichberg.
Treasurer—William H. Crane.
Librarian—Arch I. Carson.
Secretary—Alfred Friedlander.

The meeting then adjourned.

The reports of the officers follow.

REPORT OF THE PRESIDENT, DR. HENRY WALD BETTMANN.

In assembling to-day to look back over the work of the past year the Cincinnati Medical Library Association has much cause for congratulation. A good start has been made. There has been very little difficulty in gaining the coöperation of the medical profession. Several laymen have taken substantial interest in our work.

In every direction we can report progress. The library is now open continuously from 9 A.M. to 5:30 P.M. A large number of new journals have been subscribed for. The new journals are on open shelves, and can be freely examined by all readers. This open-shelf system is now the rule in the public libraries throughout the country, and is in vogue in the best medical libraries. No harm is done the files, and the pleasure and convenience of the reader are greatly increased. We are progressing as rapidly as possible with the cataloguing. The cataloguing of medical books is a difficult and slow task, but one whose necessity becomes more apparent as the library grows. We have installed a telephone, so that a physician using the library is no longer shut off from communication with the outside world. We have received numerous gifts, some of great value; and we hope in time to become the depository of many collections of books, pictures and historical relics.

We look forward to a year of uninterrupted progress. Our expenditures have been kept well within the borders of our resources. Another year's work will show splendid results in rendering the contents of the library readily accessible. Our librarian's assistant, Miss Winterbottom has given us enthusiastic and very earnest efforts. Her attendance at the last meeting of the A. L. A. shows the live interest she is bestowing upon her work. Her value to the library will increase as she becomes more and more accustomed to the needs of those who use the library.

In the not very distant future certain questions connected with the medical libraries of the city will confront the physicians of this city. It seems very probable that the removal of the hospital to Avondale will occur in two or three years. What then shall be done with collections of books now stored here? Shall the library of the City Hospital be taken to Avondale, or shall it remain down town? This question is one of great moment, and the solution rests largely with the medical profession. The physicians of Cincinnati have been fortunate in having their needs regarding a library well provided for by the city. The time is not far off when this duty will devolve upon the profession itself, and this Association must be prepared to grapple with the problem.

The officers of the Association have attended to their duties with zeal and earnestness. Dr. Muhlberg's departure for the West withdrew from our Association a highly valued and efficient officer. His resignation was accepted in the summer of 1904. Dr. W. H. Crane was appointed to succeed him.

REPORT OF THE LIBRARIAN, DR. ARCH I. CARSON.

The actual work of the library was not started until December 1, 1903, at which time the assistant to the librarian, Miss Mabel Winterbottom, took charge at the library quarters of the Cincinnati Hospital, previous to which time she had taken, through the courtesy of Mr. N. D. C. Hodges and the Library Trustees, a course of instruction at the Cincinnati Public Library. The securing of a trained medical librarian is very difficult at the best, and when means are limited it is impossible. We have, therefore, been forced, as other medical libraries have been, to train an assistant by actual work in a medical library. To one unfamiliar with medical matters such work requires time, patience and enthusiasm. We are fortunate in having secured an assistant, whose usefulness has been demonstrated during the past year, and who will become more valuable each succeeding year.

The Association has now on file twenty-nine journals in addition to those which were already on file in the Cincinnati Hospital Library. (A list of these is given below.) The most important work done was the making of an alphabetical list of the journals in the Hospital Library, some 130 separate titles, giving the history of the journals since publication, the changes in titles, number of volumes, dates and places of publication and how often issued. The amount of labor necessary in compiling this list can be appreciated only by one who is familiar with such work. A check list has also been made, giving the record of current periodicals, date and place of issue, when issued, price and source.

There have been accessioned, stamped, dated, classified, shelf-listed and catalogued 150 volumes. All volumes belonging to the Association have been accessioned, stamped and plated. The cataloguing of books is more of a task and expense than is usually thought, and when it is considered that at the Cincinnati Public Library, where a large corps of trained cataloguers is employed, it costs twelve cents per volume, our progress in this work must necessarily be slow and comparatively more expensive.

The necessary appliances and material—typewriter, desk, accession book, perforator, cards, etc.—were purchased, and this expense will, of course, not be incurred again. The library has received a number of valuable donations, for which we wish to express our appreciation.

The library now has: Books, 533; pamphlets, 82; pictures, 100; unbound periodicals (complete volumes), 95.

LIST OF DONORS AND DONATIONS.

American Gynecological Society, through Thad. A. Reamy, M.D.
Andrew Carr Kemper, M.D.
Henry Wald Bettmann, M.D.
In Memoriam, William Carson, M.D.
J. Trush, M.D.
Louis J. Krouse, M.D.
M. B. Brady, M.D.
Public Library of Cincinnati, through Mr. N. D. C. Hodges, Librarian.

Rev. Louis Grossmann.

Rhode Island Medical Society, through George D. Hersey, M.D.

William H Taylor, M.D.

William Judkins, M.D.

LIST OF JOURNALS ON FILE.

Annales de chirurgie et d'orthopédie.
Annales de médecine et chirurgie infantiles.
Arbeiten auf dem Gebiete der pathologischen Anatomie und Bacteriologie aus dem pathologisch-anatomischen Institut zu Tübingen.
Arbeiten aus dem kaiserlichen Gesundheitsamte.
Arbeiten aus der chirurgischen Klinik der königlichen Universität Berlin.
Archiv für Anthropologie.
Archiv für die gesammte Physiologie des Menschen und der Thiere.
Archiv für Kinderheilkunde.
Archiv für Physiologie.
Archives d'anatomie microscopique.
Archives de médecine des enfants.
Archives de médecine et de chirurgie spéciales.
Archives italiennes de biologie.
Beiträge zur klinischen Chirurgie.
Bulletin of the Ayer Clinical Laboratory of the Pennsylvania Hospital.
Bulletins et mémoires de la Société de chirurgie de Paris.
Centralblatt für die Grenzgebiete der Medizin und Chirurgie.
Fortschritte auf dem Gebiete der Röntgenstrahlen.
Jahrbuch für Kinderheilkunde.
Jahresbericht über die Fortschritte auf dem Gebiete der Chirurgie.
Journal de physiologie et de pathologie générale.
Journal of Hygiene.
Journal of Medical Research.
Journal of Pathology and Bacteriology.
Medical Library and Historical Journal.
Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie.
La presse médicale.
La semaine médicale.
Die Therapie der Gegenwart.
Centralblatt für Physiologie.

THE CINCINNATI SOCIETY FOR MEDICAL RESEARCH.

The regular meeting of the Society for Medical Research was held in the Laboratory of the Cincinnati Hospital, December 22, 1904. It was largely attended and was one of the most successful meetings of the society. Dr. Wolfstein, the President, in the chair. In the absence of the Secretary, Dr. Schroeder acted as Secretary *pro tem.*

The first paper on the interesting programme of the evening was on "The Sources of Tuberculous Infection in Cincinnati," by Dr. B. F. Lyle. The main facts brought out in the paper were:

1. That infection of infants, by way of the intestines and through cow's milk, was seemingly rare.

2. That the death-rate among school children from tuberculosis was small.

3. That the death certificates are not a true index to the frequency of deaths from tuberculosis.

The paper was discussed by Drs. Crane, Schenck, Faller, Mitchell, Rowe, Knight, Kramer, Schroeder and Lyle.

Dr. A. Faller presented a report of a case of "Distoma Hematobium of the Bladder," and Dr. Greiwe presented a most interesting report of the "Histologic Findings in a Case of Diabetes Mellitus." The most important anatomic features were the following: Chronic pancreatitis, passive congestion of kidneys, passive congestion of the liver, diminution of size of frontal lobes of brain and convolutions. This paper was discussed by Drs. Mitchell, Rowe, Schroeder Wolfstein and Greiwe. This and other papers will be published later in full.

Dr. Schroeder presented a specimen of 500 c.c. of gastric juice (human) being part of one liter originally withrawn in a case of gastro-succorrhea.

The next meeting of the society will be held on Thursday, January 19.

The Nasal Treatment of Asthma.

Francis (*Journal of the Royal Army Medical Corps*, London, November, 1904), after an experience obtained by the treatment of over 400 cases of various kinds of asthma, has arrived at the following conclusions:

1. Asthma is due to reflex irritation of the bronchial tubes.

2. The irritation may originate in the nose, as may be inferred from the intimate association of hay fever and asthma, by the common history of sneezing in the previous record of an asthmatic patient, by the not infrequent alternation between asthma and sneezing.

3. That asthma is not due directly to any mechanical obstruction of the nasal passages, and is not commonly caused by any gross nasal lesions.

4. Some part of the nasal apparatus has a controlling influence on the respiratory centres, or there is in the nose an agency through which the afferent influences must pass. W. E. M.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, JANUARY 28, 1905.

CHICAGO'S HEALTH RECORD.

We have had occasion a number of times in the past to refer to the splendid work of the Commissioner of Health of Chicago, Dr. A. R. Reynolds. His bulletin reviewing the health conditions of that city presents many points of interest. The first eleven months of 1904 the death-rate was but 12.54 per thousand, as compared with 15.15 per thousand during the corresponding period of 1903. Early in December warning was given that there was a likelihood of a great increase in the infectious diseases of childhood as well as of influenza and pneumonia, and both profession and laity were advised to take stringent measures accordingly. The advice, as usual, was disregarded and the gloomy prospect was more than verified; the death-rate in December was over 16 per cent, greater than in November, and was sufficient to swell the mortality for the year to 13.61 per thousand, at that the lowest record that Chicago has ever enjoyed and the least for the year of any large city, either in this country or abroad.

The apprehension felt in regard to influenza and pneumonia wás, unfortunately, justified. Not since 1891, the year of the great pandemic, has Chicago suffered so acutely from grippe; indeed, the same might be said of our own city, while pneumonia contributed nearly one-fifth of the entire mortality. In spite of the ravages of these two diseases, a retrospect of the year is not discouraging. The records show 2,614 fewer deaths than during 1903, with a population approximately 60,000 greater. Of this great reduction, 1,224 was recorded among children under five years of age, 927 of this number at the so-called milk-feeding period" of life, a most telling tribute to the efforts of the department in its fight to secure a comparatively pure article of cow's milk. In addition, the mortality from typhoid has been materially decreased, thanks to the adequate supply of pure water now obtainable; indeed, the water of Chicago must rank as among the most pure of any municipality in the world, as samples from all tunnels have been found, according to the rigid tests of the department laboratory, to be as good as the specimens taken twelve miles from shore, which water is regarded as the standard of purity. This splendid standard has been maintained since September, 1904, and explains the low mortality from typhoid, the lowest ever recorded in the history of Chicago—1.92 per 10,000 of popluation.

The mortality from smallpox was remarkably low, but thirty deaths having been recorded in all. Many of these were not native to Chicago, the disease having been contracted in other localities and brought to the city. The vigorous measures of the department prevented any panic or excitement among the people at large, in spite of the fact that the city was never entirely free of the disease.

In diphtheria, also, there was a marked decrease in mortality, in all 396, or 218 fewer than last year (1903), and the smallest number since 1878, when the population of the city was but one-fourth of what it now is.

In but five of the important causes of death was there any increase, and the report is of the greatest value in showing what can be accomplished by intelligent and well-directed sanitary precautions.

A SIGN THAT IS INDICATIVE.

In years that are long gone by it was a custom in making remittances for the remitter to send his cash by way of one of the express companies, or trust to luck in enclosing his ducats loosely in an envelope, and every now and then would neglect to send with the remittance his address. This was not intentional, of course, but came from an infrequency of calls for money to be sent through the mails. But few physicians had a bank account.

How different at the present time! Few remittances are received of cash money, and not many by express. The rule is a bank check or post-office order. The latter has a charge attachment for the order, which is small, but for absolute convenience the bank check is the thing most modern. It is supposed by the writer that every bank is in some way connected with a clearing-house to which all checks are sent for collection, which is one of the modern institutions of the financial world, and all are dependent upon hourly mail deliveries. The courts have decided that checks must be presented for payment within a reasonable time, which reasonable time is not very flexible, but has a narrow limit, which is quite right, as it is in keeping with modern business methods.

Physicians are mostly acquainted with the nature of a financial obligation, but there are those who are heedless, forget dates and obligations alike. The world moves and has no place of rest for the delinquent. Time, on time and punctuality are constantly rattling through the mails and at the telephone.

Physicians are sometimes said to be bad business men. The assertion is without justification. Some are good and some neglectful, much the same as in other occupations. The prompt cash man is the one who obtains the very best of everything; he gets the porterhouse steaks and tenderloins of the market, wants and is gladly given best discounts for his cash. So his promptness is made profitable.

Most physicians now have a bank account, with a corresponding credit, which is well and plays the part of a soporific, being conducive to sleep.

The very first thing every young practitioner should do is to obtain an introduction at some bank and there open an account, and there is no necessity for becoming embarrassed or frightened because of the size of your roll. It may be ever so small. All the same it will be accepted as a starter. Such rolls and accounts have vitality in them and naturally grow; sometimes there is an affliction known as growing pains, which is due to rapid expansion, and strikes doctors' accounts just for all the world as it does those of other people.

It is an encouraging sign and worthy of imitation to see a doctor coming out of a bank wearing a smile of satisfaction as he mentally contemplates a growth in his deposits. Every young man should get there.

J. C. C.

A CHANGE.

In the interest of an esthetic appearance, the insert ads. which have heretofore appeared in the mechanical make-up of THE LANCET-CLINIC have been eliminated, which looks better and must prove much more satisfactory to readers of the journal. Nearly every one of the advertisers have stood fast by the journal. One or two have held off, but they will probably see their way clear to a return because of the large circulation advantages which are offered them in THE LANCET-CLINIC.

Every subscriber who has the interest of the journal at heart should strive to make it his own ideal publication by inducing as many of his confrères as possible to send in their names and addresses, etc. They should take a laudable pleasure and pride in displaying it as a weekly publication that is in every respect in the first grade and first class, strictly ethical in medicine, and stands for purity of principle and every-day conduct of the man who practices medicine.

There is no good reason why the subscription list of The Lancet-Clinic should not be doubled. Bricks cannot be made without straw, neither can a medical journal be published without a large daily revenue. The pay-roll of employés in The Lancet-Clinic office amounts to many thousands of dollars per year; so does bills for paper and other accounts, all of which must be liquidated with spot cash, every week and every month. With a chief resource found in the subscription list, no name represents a large amount, so there is a requirement of many hundreds and thousands of names which have a pay-mark affixed to them.

Old subscribers are absolutely invaluable to a publication, as they are its sustainers, and the more there are of them the greater the possibilities, and every one naturally wants the very best he can obtain for his money. So there should be a general getting together in the interests of a journal that practically belongs to the medical profession. It is theirs by adoption and theirs in history, and should be made the very best publication possible. J. C. C.

EDITORIAL NOTES.

Smallpox is increasing in Cincinnati. For the week ending January 20, 1905, there were three new cases and one death.

Health Officer Clark W. Davis, recently addressed the Civic Section of the Women's Club on the sanitary regulations of Cincinnati. He spoke in particular of the spitting nuisance, explaining the almost utter impossibility of obtaining witnesses in case an arrest is made. He also strongly advocated the medical inspection of schools.

Dr. Thad A. Reamy has been presented with a silver loving cup by the members of the local chapter of the Beta Theta Pi.

Dr. Moses Salzer, formerly interne to the Cincinnati Hospital, has returned to enter the active practice of medicine in this city after a prolonged tour of Europe.

Report of the Bureau of Infectious and Contagious Diseases for the week ending January 20, 1905:

Disease.	Cases.	Deaths.
Measles	1	●
Diphtheria	8	1
Scarlet Fever	14	1
Typhoid Fever	23	3

The Academy of Medicine of Toledo and Lucas County elected officers January 13, as follows: President, Dr. Thomas Hubbard; Vice-President, Dr. Dice; Secretary, Dr. Levison; Financial Secretary, Dr. Duncan; Treasurer, Dr. John Keller; Board of Censors, Dr. Hasencamp; delegate to State Society, Dr. Myers.

Drs. J. O. Jenkins, W. E. Senour and J. L. Phythian, Trustees of Speers Hospital, Dayton, Ky., have each sued Attorney C. L. Raison for five thousand dollars for alleged slander. The defendant, in making an investigation of the hospital books some weeks ago, submitted a report which the plaintiffs claim attacks their characters.

The plans of the Water-Works Commission are beginning to take shape. It is expected that alum will be used to clarify the water, unless some better substance is discovered in the near future. The chief engineer is also considering the advisability of roofing the new northwest reservoir with concrete, either of the arch or floor plan of construction. The reservoir is to hold 45,000,000 gallons of water, and will cover seven acres of ground, so that the roof, if built, will probably be the largest of the kind ever constructed.

BILL TO INCORPORATE THE AMERICAN MEDICAL ASSOCIATION.—The bill to incorporate the American Medical Association (H. R. 17335) was introduced in the House of Representatives, January 9, 1905, by Mr. Dwight. The bill was referred to the committee on the judiciary and was ordered to be printed. It is as follows:

A Bill to incorporate the American Medical Association.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

That Robert M. O'Reilly, doctor of medicine, Washington, D. C.; Presley M. Rixey, doctor of medicine, Washington, D. C.; Walter Wyman, doctor of medicine, Washington, D. C.; E. H. Gregory, doctor of medicine, St. Louis, Mo.; Henry O. Marcy, doctor of medicine, Boston, Mass.; Nicholas Senn, doctor of medicine, Chicago, Ill.; George M. Sternberg, doctor of medicine, Washington, D. C.; J. M. Mathews, doctor of medicine, Louisville, Ky.; W. W. Keen, doctor of medicine, Philadelphia, Pa.; Charles A. L. Reed, doctor of medicine, Cincinnati, Ohio; J. A. Wyeth, doctor of medicine, New York, N. Y.; Frank Billings, doctor of medicine, Chicago, Ill.; J. H. Musser, doctor of medicine, Philadelphia, Pa.; T. J. Happel, doctor of medicine, Trenton, Tenn.; Miles F. Porter, doctor of medicine, Ft. Wayne, Ind.; E. E. Montgomery, doctor of medicine, Philadelphia, Pa.; W. W. Grant, doctor of medicine, Denver, Colo.; H. L. E. Johnson, doctor of medicine, Washington, D. C.; A. L. Wright doctor of medicine, Carroll, Iowa; William H. Welch, doctor of medicine, Baltimore, Md.; M. L. Harris, doctor of medicine, Chicago, Ill.; Philip Marvel, doctor of medicine, Atlantic City, N. J., and Lewis S. McMurtry, doctor of medicine, Louisville, Ky., and their successors, and those who may be associated with them, are hereby made and constituted a body politic and corporate by the name American Medical Association, with perpetual succession and power to take, for the purposes of its incorporation, by devise, bequest, grant, gift, purchase or otherwise, and hold or convey, both real and personal property and transact business anywhere within the United States.

SEC. 2. That the object and purpose of such corporation shall be to promote the science and art of medicine and the public health throughout the United States.

SEC. 3. That such corporation shall have power to make by-laws, rules and regulations, and choose officers for its government and the attainment of its purposes-

Orthopedic Surgery.

C. E. CALDWELL, M.D.

Excision of the Elbow-Joint for Traumatic and Arthritic Ankylosis.

Dr. B. Merrill Ricketts, in a paper read before the Western Surgical and Gynecological Association, Milwaukee, Wis., December 28–29, 1904, in a clear and concise manner traces the history of the "Excision of the Elbow-Joint" from the time of Wainman, of Shripton, England, who was the first to perform this operation for any cause (1758). He notes conclusions that a number of the more prominent operators have drawn from their own work and that of others, and gives Gordon Buck credit for having made the first excision in America for traumatic ankylosis (1842); Joseph Pancoast, the first for disease (1842); and Hoyt, the first for gunshot wound (1847).

He states as the province of his paper the consideration of ankylosis of the elbow joint due to acute or chronic suppurative synovitis without injury to or destruction of the bone, to acute or chronic non-tubercular synovitis without injury to or destruction of the bone, or to fracture of the articular surfaces of the bones entering the formation of the joint.

He mentions rotation, supination, flexion and extension as the functions to be restored by the operation, and hemorrhage, gangrene, paralysis, pain and flail as the possible complications.

In each of the five cases of his own which he considers the patient was a female between the ages of twenty and thirty years, and in each case also the right elbow-joint was involved. After carefully summing up the results of more than a thousand cases which have been reported to date, in hospital and private practice, he draws the following conclusions:

1. Excision of the elbow joint for ankylosis, due to any cause, at any age, is a most rational procedure.
2. If possible, it should be done before or at the time that ankylosis is complete.
3. A posterior median incision is most practical.
4. With care the operation can be done without injury to blood-vessels or nerves.
5. Drainage should always be provided for.
6. The arm should be placed upon a right-angle splint.
7. Results are better when only the articulating surfaces are removed.
8. If there is complete bony union of the articulating surfaces much more bony tissue must be sacrificed because disarticulation cannot be accomplished.
9. All soft structures cut transversely will unite, but new insertions are formed which destroy their functions.
10. All attachments of tendons and muscles should be preserved.
11. All periosteum should be preserved.
12. If excision of the joint is complete, leaving only the ends of the shafts, flail joint can be prevented by approximating their ends with kangaroo tendon at time of primary operation.
13. Wire or nail may be used, but their removal sooner or later will be imperative.
14. Flail joint rarely results from any form of excision, but is more likely to be found following excision of the entire joint.
15. If flail joint results a mechanical device may be employed.
16. Injections of alcohol or one or more of the various astringents will increase fibrous tissue both in quantity and density.

The paper is profusely illustrated with skiagraphs and photographs.

J. A. THOMPSON, M.D. W. E. MURPHY, M.D.

Laryngology and Rhinology.

Experiments with Radium in Some Nose, Throat and Ear Cases.

Beck (*Chicago Medical Recorder*, December 15, 1904) reports his results with the use of radium in the treatment of nose, throat and ear cases. A case of primary tuberculosis of the septum was given thirty-three applications with the bromide of radium, the duration of the application being from five minutes to one-half hour. The treatment was given every day at first and gradually reduced to once a week. After six treatments the mass looked much better and did not bleed so easily on touch. After twelve treatments the patient was able to breathe much better and the improvement has continued, with a diminution in the size of the growth. The use of radium bromide in a case of nasal syphilis resulted in relief from pain and the disappearance of the odor. In a case of sarcoma of the nose the pain disappeared and sleep was induced, and a probable prevention of the recurrence of the growth. A case of sycosis was treated with satisfactory result, and one of lingua nigra was cured by seven exposures. In a case of chronic suppuration of the middle ear with necrosis the odor was markedly diminished and the discharge lessened. The cases in which no beneficial results were obtained were secondary tuberculosis of the larynx, and a carcinoma of the larynx.

W. E. M.

An Accident with the Antrum Trocar.

Douglass (*New York Medical Journal*, December 3, 1904) reports an accident while using the antrum trocar designed by him. The instrument passed through the outer wall of the antrum and water injected passed out into the soft tissues of the cheek. The patient was immediately put to bed and ice cloths applied. Within forty-eight hours the water was all absorbed without any bad results. In explaining this rare accident he assumes that the antrum was very small or entirely absent, or that the needle was not introduced at the proper point. W. E. M.

Ultimate Results of Cicatrization of the Lower Turbinate, with Therapeutic Suggestions Based on Histological Findings.

Goodale (*Boston Medical and Surgical Journal*, December 29, 1004) gives the results of his histological examinations of a series of cases of hypertrohy of the inferior turbinate, in which the swelling had returned after a time as follows: The application of caustics destroys the ciliated columnar epithelium, which is replaced by the squamous variety. Below the epithelial layer new connective tissue is formed, the amount depending upon the depth of the cauterization. The contraction of the body is due to the contraction of this new tissue and the compression of the lymph sinuses, the blood-vessels and glands. Repeated superficial burning tends to the formation of new connective tissue immediately beneath the epithelial layer, which, by constricting the lumen of the ducts of the glands, results in a cystic dilatation of the gland and a subsequent enlargement of the turbinated. As to the proper mode of cauterization, he advises deep cauterization affecting the lymph spaces and blood-vessels, and the destruction of as small an amount of the epithelium as is possible. This result is best obtained by deep linear application, as narrow as possible, or by the submucous cauterization. If it is the object to diminish the amount of the nasal secretion a broad superficial application on the septum or the posterior end of the inferior turbinated body, will produce the desired result. When the enlargement returns it is advisable to remove it by excision.

W. E. M.

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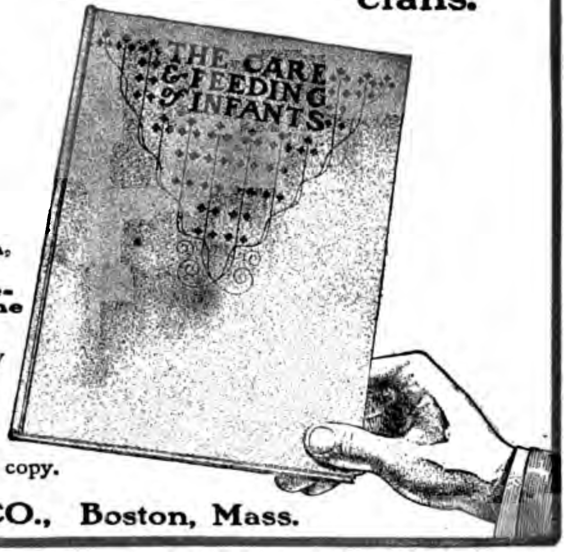
THE CARE & FEEDING of INFANTS

The Lancet-Clinic

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NEW SERIES VOL. LIV. FEBRUARY 4, 1905. WHOLE VOLUME LXXXXIII.

PAIN IN THE BACK—A CLINICAL LECTURE.

BY F. W. LANGDON, M.D.,
CINCINNATI,
Lecturer on Nervous and Mental Diseases in the Clinical and Pathological School of the Cincinnati Hospital; Visiting Neurologist to the Hospital.

[Reported by DR. C. W. SMITH, Interne.]

Ladies and Gentlemen:

We have for study this morning a case of "pain in the back."

No such disease is mentioned in your text-books; for we all know that pain, like "paralysis" and "dropsy," *is a symptom, not a disease.* Nevertheless, *pain in the back* is a very common complaint, and one of great practical importance, as it may be indicative of a number of diseases.

Our patient is a man fifty years of age, a barber by occupation. The most significant pathologic event in his previous history is a luetic accident which occurred ten years ago.

The beginning of this pain in the back for which he enters the hospital dates back two years. The onset was acute, he tells us, but did not disable him at once. In fact, he continued at his occupation for five months, the pain increasing and occurring in paroxysms, which finally compelled him to cease work.

The question naturally arises, to what is the pain due? of what disease is it a symptom?

A convenient classification of pain recognizes two forms:

1. Subjective, or pain of which our chief or only evidence is the statement of the patient, in which no lesion would be detectable as a cause for the pain, even were the tissues examined under the microscope.

2. Objective pains, where, in addition to the statement of the patient, we have evidence of disease likely to cause pain.

Our first question, therefore, in the investigation of such a case should be, "Is there a lesion?" Is the pain "functional?"—that is to say, without detectable lesion—or is it organic and dependent on a structural tissue change affecting the neuron?

A purely functional pain is inconceivable; we must assume some molecular departure from health when a neuron manifests pain abnormally. Where no lesion is detectable, however, and the pain exists, we call it functional for convenience. Such pain is probably *none the less real* to the patient. We leave out of consideration, of course, the alleged pains of the malingerer, who considers it to his interest to complain of pain which does not exist. That is simply lying and ordinarily not difficult to detect.

What are the characteristics of functional pains? Commonly they occur in patients suffering from hysteria, neurasthenia and malnutrition or toxic blood states. The subjects of anemia, malaria, chronic gouty conditions, the syphilitic dyscrasia, diabetes, etc., are sufferers from functional pains due to lessened neuron resistance to ordinary irritants. In other words, a slight irritation, as change of temperature, etc., insufficient to affect a healthy nerve tissue, will produce pain manifestations or impulses in the unhealthy neurons.

Secondly, functional pains are apt to be diffuse and shifting in location, not distinctly limited to definite areas.

Thirdly, functional pains are commonly without accompanying *loss of sensation*. There is no anesthesia to touch, heat or cold *in the painful area*.

Fourthly, no motor, reflex, vaso-motor, or trophic defects accompany areas of functional pain.

As regards distinction of real pain from simulated pain, a fairly practical test is the pulse-rate. When an area of real pain is irritated and the pain increases, the pulse-rate is accelerated markedly, increasing twenty to thirty, perhaps forty, beats to the minute. No such change occurs in the malingerer's pulse.

If we subject our patient to these tests, we find that:

1. He has no dyscrasia, but is well nourished apparently.

2. He has distinct losses of heat and cold and pain senses in patches over a girdle-shaped area on the thorax, three or four inches in width.

3. The skin reflexes over the area are markedly exaggerated, so that a light touch causes active muscular contraction in the erector spinæ muscles, and an acute exacerbation of the pain. Moreover, his pulse-rate rises markedly during these paroxysms of pain.

If we look for evidence of hysteria as cause for his pains, the emotional state is lacking, segmental anesthesias and contraction of the visual fields are absent. In fact, none of the characteristic "stigmata" of hysteria are present.

The pains of neurasthenia are seldom *true* pains, but more of the nature of paresthesia or perversions of sensation, such as sense of pressure, constriction, numbness, tingling, etc. Moreover, undue fatigue on mental or physical effort characterizes the neurasthenic. In like manner we may exclude an ordinary intercostal neuralgia. Since the pain is not unilateral, the characteristic tender points of this disease are lacking, as are the cachectic or anemic conditions which usually accompany neuralgia.

We may exclude, therefore, (1) *Hysteria*, (2) *neurasthenia*, and (3) *neuralgia*, and answer the question, "Is there a lesion," in the affirmative.

Having reached this important stage in the diagnosis, the next question is naturally, "Where is the lesion?"

Beginning at the surface, we may interrogate in turn the various structures and tissues of the painful region.

4. It is a "*dermatalgia*" or neuralgia of the cutaneous nerves?

It is doubtful if a true cutaneous neuralgia exists, but it is simulated by the pains which precede an outbreak of herpes. Since herpes has been shown to depend on a hemorrhagic inflammatory affection of one or more of the posterior root ganglia of the spinal nerves, it can no longer be considered a functional or neuralgic affection.

Herpetic pain is excluded in the case by the long duration of the pain, its bilateral distribution and the absence of any eruption.

5. *Lumbago* or pain in the intra-muscular nerves is to be considered.

Lumbago, as the name indicates, occurs in the lumbar region, is usually a result of strain or traumatism of some kind, perhaps occasionally "rheumatic." The pain is localized in the quadratus lumborum muscle, is usually unilateral, and pressure over the origin and insertion of the muscle reveals local tenderness.

We may safely exclude lumbago in this case by its location in the mid-thoracic region, its bilateral symmetry and absence of tenderness at the attachments of the lumbar muscles.

6. Is the pain "*rheumatic?*" True articular rheumatism, as we know, is a febrile disease, probably an acute infection, characterized by inflammatory exudation into one or more joints or other fibrous structures and by fugacity; that is to say, its tendency to change its location from day to day. The pain in this case is fixed to one area, and has been so for a long time; there is no fever, and while movement causes pain, it is evident that the pain so caused is not confined to joints, but radiates to the sides and front of the chest wall.

7. *Rheumatoid arthritis*, or "arthritis deformans," is a disease to be considered. In rare cases it may occur in the spinal joints alone. Against this diagnosis, however, we have the long duration of pain in one area and the lack of any fixity, swelling or deformity of the joints.

8. Has the patient a *localized periostitis* of the vertebral column? Probably not, because, in the first place, there has been no traumatism to cause it, nor is there evidence of bone disease to which it might be secondary.

9. *Vertebral caries* is excluded by acute onset, absence of deformity, rigidity and fever, and of evidence of tubercular diseases elsewhere. The pain also is more severe than is usual in vertebral caries.

10. *Pachymeningitis spinalis externa*, or inflammation of the spinal dura, must be considered. This is commonly secondary to bone lesions or periostitis, which, as we have seen, are not present.

11. *Pachymeningitis spinalis interna* is secondary to vascular disease or hemorrhage, usually occurs in the cervical region, and is accompanied by muscular wasting in the hands and arms.

12. Is the pain due to *myelitis?* The absence of motor weakness or sensory defect or bedsores *below* the lesion, the presence of sphincter control and of intact reflexes, all unite to exclude myelitis, which, moreover, is not attended with pain of so acute character as this.

13. Is there a *spinal tumor* compressing the nerve roots or irritating the membranes? A spinal tumor of two years' duration would probably have caused more destructive symptoms than are here present —a compression myelitis, for example, with marked loss of power and sensation below the lesion, as well as severe pain at the level of the lesion. Other symptoms of myelitis would be present — sphincter defects, bed-sores, etc. We may consider spinal tumor, therefore, improbable, though not impossible.

14. Are the pains those of *locomotor ataxia?* The patient tells us that they shoot down into the legs once in the while, and the "girdle" symptom is present in his case. Against the diagnosis of locomotor ataxia, are the absence of Argyle-Robertson pupil and of ataxia of gait or station; the presence of knee-jerks, and of good sensation in the feet and ankles. About the only disease that remains to be considered is:

15. *Leptomeningitis spinalis.* Inflammation of the pia-arachoid. This may occur in two chief forms:

1. Acute.
2. Chronic.

Acute spinal leptomeningitis may be incidental to (*a*) epidemic cerebro-spinal meningitis; (*b*) to other infectious fevers, as typhoid, pneumonia, rheumatism, furunculosis, or septic conditions generally.

The onset is apt to be marked by fever, chill, and by severe pains and rigidity in the back and all four extremities. In other words, the disease is *diffused* over considerable areas of the meninges.

Lumbar puncture may reveal the characteristic micro-organism of the form present.

In our patient the disease is evidently *focal, not diffused* over a wide area. None of the conditions mentioned as causes of acute spinal leptomeningitis has been present, so far as we may judge from the history.

We may exclude, therefore, a generalized acute spinal leptomeningitis.

Chronic spinal leptomeningitis is more likely to be a "focal" disease, affecting one or more limited areas at the start. It is essentially a syphilitic disease, and, as such, is characterized by (1) vascular lesions, (2) multiplicity of foci.

Bearing in mind our patient's history, and noting, furthermore, the fact that he has a strabismus due to weakness of the sixth nerve on the right side and a fixed pupil due to paralysis of the third and sympathetic nerves on both sides, we have a conclusive evidence of *multiple* focal lesions, spinal and intra-cerebral.

The onset and subsequent slow, steady, progressive course of the disease as also suggestive. The sudden onset of a vascular lesion or lesions, probably thrombotic, due to gummatous endarteritis, the progressive and persistent increase of symptoms suggesting a gradually increasing exudate which has finally ensheathed the spinal nerve roots in the mid-dorsal region and by its subsequent organization and contraction, has irritated these structures so as to cause pain and muscular spasm on the one hand, and has produced sufficient compression and destructive changes in some fibres, to abolish their function, as is shown by the patches of anesthesia to heat, cold and pain sense. We have a combination, therefore, of an irritation and a destructive lesion.

All the conditions present, therefore, warrant the diagnosis of *chronic spinal focal leptomeningitis* of gummatous type.

As to prognosis, the long duration of the condition leads us to expect more or less permanent damage to function, due to the destructive effects of long-continued cicatricial compression of nerve roots.

It is reasonable to presume, however, that the gummatous inflammation is still progressing at the periphery of the area affected, and that the more recent exudate may be influenced by treatment.

TREATMENT.

But two factors are to be considered in the treatment.

First, the severe pain, which imperatively demands relief. The very presence of severe pain may increase the amount of exudation. In pains of meningeal origin but one class of remedies are worthy of mention, namely, opiates. In some form they should be given in full doses to control the pain.

The second factor to be considered in the treatment is the *exudate*. Left to itself or to the "expectant" plan of treatment, or to osteopathy, Eddyism or any other "pathy," it will increase in amount and pass on to organization into connective tissue, this producing by its subsequent contraction permanent damage to the nerve roots and eventually to the spinal cord itself.

There are but two remedies upon which we may rely to lessen or prevent this tendency to organization, namely, mercury and iodine. These produce softening and disintegration in the immature cells of the exudate, and so promote their liquefaction and absorption.

The patient is having the benefit of both the anodyne and the anti-syphilitic treatment, and we hope to be able to report his improvement in due time.

NOTE —A week later the patient was shown to the class, able to walk to the amphitheatre, free from pain and with general improvement in his sensory symptoms.

TYPHOID FEVER AND APPENDICITIS.*

BY JOHN CHADWICK OLIVER, M.D.,
CINCINNATI.

The purpose of this paper is to again call attention to the facts that these two diseases may be mistaken the one for the other; that they may co-exist in the same patient; and that one of these diseases may precede the other by but a short period of time.

When these two diseases follow what may be rightfully regarded as their typical courses, the question of differentiation does not arise, because there is little or no similarity in their mode of onset or in the manifestations of the diseases; but it occasionally happens that typhoid fever has an abrupt invasion, and, on the other hand, an attack of appendicitis may have an insidious onset. Under such circumstances a differential diagnosis may be very difficult or even impossible. The report of the following case illustrates the fact that an unusual case of typhoid fever may be diagnosed as being one of appendicitis:

CASE I.

The patient was a young colored girl, thirteen years of age, who was perfectly well four days prior to the onset of this attack; this statement was made by the patient and confirmed by her mother.

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* Read before the Southern Surgical and Gynecological Association, at Birmingham, Ala., December 14, 1904.

While returning from an errand to a grocery store three days before entering the hospital the patient was suddenly seized with a very severe pain in the abdomen, the point of greatest intensity being, according to her statement, in the region of the umbilicus. The pain was followed in a short time by vomiting. The pain and vomiting continued for three days, *i.e.*, until she was admitted to the hospital. Her bowels moved freely, without the employment of a cathartic, upon the third day of her illness. She had a slight epistaxis the same day. This had occurred once previously.

The patient was well nourished when she entered the hospital. There was nothing to indicate that she had been ill for a longer period than that stated by her and her mother. Her temperature when admitted to the hospital was 104.4°, her pulse was 124, and her respirations were 28 and of the thoracic type. She complained of very great pain in the abdomen. The belly wall was very rigid and retracted. Tenderness was very pronounced in the region of the navel and at McBurney's point. Palpation of the abdomen was unsatisfactory because of the rigidity of the abdominal muscles, but dullness was elicited by percussion in the right iliac fossa.

One-sixth of a grain of morphia was given hypodermatically. A half-hour later the abdominal muscles were so far relaxed as to enable us to outline a distinct mass midway between the umbilicus and the right anterior superior spine of the ilium. This mass, lying in a longitudinal direction, was apparently about two inches long and nearly as broad. It was exquisitely tender.

After the patient had been in the hospital for one and one-half hours her temperature had risen to 105.2° and her pulse to 132 per minute. The other symptoms remained unchanged. The patient was prepared for an immediate operation.

Incision revealed the fact that the mass referred to above was the lowest part of the ileum and the head of colon. These structures were so very much thickened and indurated as to give one a sensation such as is conveyed by handling a sausage —the parts felt solid instead of hollow. The appendix was isolated and found to to be normal. The mesenteric glands were markedly enlarged and infiltrated. The appendix was not removed. The patient died during the evening of the day of operation.

The necropsy showed "characteristic lesions of typhoid fever, especially in the lower three feet of the ileum, and very marked hyperplasia around the ileo-cecal junction; even after death the hyperplastic condition felt like a tumor mass. The vermiform appendix was found to be normal."

The histological examination, conducted by Dr. J. E. Greiwe, showed typhoid ulceration of the intestine, adenitis of the mesenteric glands, with acute fatty degeneration of the liver. I find no record concerning the condition of the spleen.

The history as given above is taken directly from that written by my house surgeon, Dr. Woodward. The acuteness of the onset, the vomiting, the muscular rigidity, the tumor, and the pain and tenderness justified the diagnosis of acute appendicitis. It is true that an examination of the blood might have been of service in making a correct diagnosis, but one may well doubt whether a positive Widal reaction would have been deemed of sufficient importance to have outweighed the other symptoms. In the light of later developments more importance might have been attached to the epistaxis.

This was the first case in which I had ever encountered a palpable tumor in the right iliac fossa due to typhoid infiltration of the intestine, but I have met with the same condition twice since. I have knowledge of a case in which this condition was mistaken for a malignant growth and the infiltrated portion of the bowel excised. It is important to emphasize the possibility of encountering this condition in typhoid fever so that one may be on his guard against possible mistakes in pathological diagnosis.

It is by no means certain that this patient would have recovered had no exploratory operation been done, but it is at once apparent that the operation did add to the burdens the patient was compelled to carry and may have contributed to a considerable extent to the fatal result.

The following case shows the possibility of the opposite mistake—that of diagnosing typhoid fever in a case of appendicitis—being made.

CASE II.

The patient was a boy of thirteen, who returned from a visit to the country complaining of malaise, fever, and general prostration. The physician in charge, a very competent practitioner, suspected typhoid fever and had his opinion confirmed by two positive Widal tests. What were taken to be rose spots subsequently appeared, but no enlargement of the spleen could ever be made out. The fever continued for five or six weeks without remission, so his attending physician began to have doubts as to the correctness of his diagnosis. The fever continued and the liver seemed to be enlarged, especially in an upward direction. A distinct bulging in the lower costal region on the right side soon became manifest and aspiration revealed pus. A marked leucocytosis (28,000) was present previous to puncture. A rib was excised and the abscess was freely drained.

The history of this case suggests a primary appendicitis with a secondary subphrenic abscess, and yet the Widal test was positive on two separate occasions and in the hands of two different observers.

It is quite possible that typhoid fever and appendicitis may co-exist in the same patient. A typhoid ulcer in the appendix may give rise to symptoms of appendicitis which may mask the existence of the characteristic typhoid indications. Dr. J. B. Murphy (*American Journal of the Medical Sciences*, August, 1904, p. 191) says: "Where the temperature alone precedes the pain for a day, or even two or three, then I am fearful that it is typhoid fever with a typhoid ulcer in the appendix. I have seen seven cases of this class; the first three were operated and typhoid ulcers were found in the appendix; the last four were not operated; all went through classic typhoid courses after the appendiceal manifestations, and all seven cases recovered."

The following report illustrates this class of cases, although the history seems to indicate that there was a primary appendicitis followed by a typhoid fever with a typhoid ulceration of the appendix.

CASE III.

Mr. C., twenty-two years of age, residing in Camargo, Illinois, a patient of Dr. I. W. Hall's. I am indebted to Dr. Hall for the earlier history of the case.

The patient came to his office on the morning of April 4, 1904, complaining of pain in the stomach. He attributed his stomach trouble to the fact that he had been doing his own cooking. The doctor, being in a hurry to get away, prescribed without a very careful examination and advised him to return in a day or two if no improvement took place. He returned on the 6th of April, walking with his body stooped and complaining of soreness and cramping in the right side of his abdomen. He stated that after going home on the 4th he vomited and suffered very severe pains in the right lower half of his abdomen. The doctor examined him and found that he was very tender in the right iliac fossa and that there was a firm tumor in the region of the appendix; the tumor was immovable. This mass was somewhat tender on pressure, and the examination produced some sharp pain by reason of pressure. The right rectus muscle was rigid. He would obtain some relief when he would draw up his right leg. The expression of his face was anxious. There was no elevation of temperature, but his pulse was 100. His bowels were not constipated. The patient was ordered to go home and remain in bed.

On the morning of April 7, the doctor was notified by telephone that the patient had vomited and suffered intensely most of the night. When Dr. Hall saw him at his home he found him in bed, lying upon his back with his knees drawn up. There was pain in the right iliac region, nausea, temperature 101°, pulse 100. The bowels were so distended that palpation of the tumor mass was unsatisfactory. There was distinct dullness in the right iliac fossa. The rectal examination revealed tumefaction on the right side. Pressure with the finger in this region was very painful.

Dr. Hall went back to see the patient in the evening and took Dr. W. A. Wiseman with him. They found that the bowels had moved freely several times in response to a dose of castor oil given that morning. His condition was about the same as in the morning, except that his bowels were more distended. His temperature had remained at 101°, but his pulse had risen to 120. The patient was advised to have a surgeon called in and Dr. Hall telegraphed me on the evening of April 7, but, unfortunately, my engagements were such that I could not leave until the following afternoon.

Dr. Hall saw the patient again on the morning of the 8th, and found that he had had a good night, had no nausea, was still very tympanitic, but that he could straighten his legs without much pain. His expression was better, his temperature was 100° and pulse 100. The tumor could be palpated, indicating that the distention was less than it had been.

He was reported as being better on the 9th and free from pain. Dr. Hall saw him again on the 10th. He was feeling well, no pain, temperature and pulse normal, appetite good, tumor the same size and tender. The tympanites had disappeared. He continued to improve and came to Dr. Hall's office about the 15th, feeling well. There was no elevation of temperature, pulse was 100, the tumor was reduced some in size but still tender, no tenderness elsewhere in the abdomen.

He reported to Dr. Hall at his office again on the 21st, feeling much better. His bowels were moving well and he was sleeping well. His pulse and temperature were normal. The tumor had almost disappeared, but he was still somewhat tender in the region of the tumefaction.

The doctor kept him on liquid diet until the 21st, when he was informed that he might then begin to take solid food. On the 3rd day of May he came into the doctor's office again. His face had a blanched appearance. His temperature was 100° and pulse 100. The tumor was a little larger and softer than it was on the 21st of April. His appetite was poor, his bowels were moving well, the region of the tumor was tender. The doctor advised him to come to Cincinnati with the idea of consulting me. The patient came by train, a distance of two hundred miles or more, and arrived at the Presbyterian Hospital on May 7.

My examination of the patient made me suspicious of the diagnosis of appendicitis, and in order to rule out other conditions I had a blood count and a Widal test made. The Widal test was negative and the blood count showed a marked diminution in the number of leucocytes. Several blood counts and Widal tests were made, but they all corresponded to the original one.

The patient was kept under observation until the 10th of May, at which time an exploration was made. The appendix was found coiled upon itself and bound up tightly to the head of the colon. The tumor mass referred to above proved to be a very greatly indurated and thickened lower end of the ileum. The mesenteric glands were enlarged and highly suggestive of typhoid fever. The appendix was removed and the abdomen closed without drainage.

Upon slitting up the appendix two ulcers were found in the mucous membrane, a round one near the tip of the organ and an oval one near the base, corresponding in appearance to ulcers of the solitary glands and Peyer's patches.

The subsequent history of the case is that of typical typhoid fever. The patient recovered and returned to his home on the 15th of June.

The bacteriological examination of the interior of the appendix revealed a pure culture of what was regarded as the typhoid bacilli taken from the distal ulcer. The proximal ulcer showed a mixed infection, but contained some pure colonies of staphylococci.

Attention has been called frequently to the possibility of mistaking the symptoms due to the perforation of a typhoid ulcer for those of a fulminant appendicitis. This mistake is most likely to occur in the cases of "walking" typhoid, because the previous history is likely to deceive one as to the time of onset of the disease. The report of the following case illustrates this point:

CASE IV.

A boy about fourteen years of age was brought into Christ Hospital in a moribund condition. He was pulseless, the extremities were cold, and early dissolution seemed inevitable.

The history was that the patient, up to four days previous, had seemed slightly indisposed, but continued about his ordinary duties. The evening previous to his entrance to the hospital was characterized by a sudden exacerbation in his symptoms, with the development of pain in the right iliac region, fever, vomiting, etc. The patient was sent into the hospital with a diagnosis of acute appendicitis. He die-about two hours after his admission to the hospital.

The necropsy revealed a perforation of the ileum, the result of a typhoid ulcer in that part.

These case reports call attention to several important points which merit our serious consideration.

Histological investigation of the appendix vermiformis leads one to believe that there is no good anatomical reason why typhoid ulceration of the glandular structure may not occur, and that if it does take place there is no reason why perforation of the ulcer may not ensue. The theoretic conclusion is borne out by practical observations on the operating and post-mortem tables. Harvey Cushing makes the statement that the appendix is the seat of perforation in 9.6 per cent. of all cases of perforation from typhoid fever. Finney gives 5 per cent. as the proper percentage of perforation of the appendix in typhoid fever. These figures apply only to cases of perforation. I know of no figures which will throw light upon the question as to what proportion of cases of typhoid fever have ulcers in the appendix. Dr. A. I. Carson, Pathologist to the Cincinnati Hospital, has paid particular attention to this point, and he finds such ulcers of the appendix to be very unusual in the fatal cases of typhoid fever which come to post-mortem examination. One is justified in concluding that typhoid ulcers in the appendix are very rare, but that they may occur and add materially to the difficulty of differential diagnosis between the two diseases.

A second important point to be borne in mind is that the typhoid infiltration of the bowel may be so great as to form an appreciable tumor in the right iliac region. This induration may be quite easily confounded with the swelling in the region of an inflamed appendix.

This series of cases seems to indicate that the Widal test is of such doubtful value as to justify one in practically ignoring it in the class of cases under consideration. It was present in one case of appendicitis and absent in one of typhoid fever. In these two cases the blood count was more suggestive than the Widal test —in the case of appendicitis the leucocyte count was high (28,000) and the presence of pus was demonstrated by incision; in the case of typhoid fever there was a leucopenia and the lesions of typhoid fever were discovered.

I cannot agree with those surgeons who maintain that incision in these cases is practically without danger, because I am convinced that the exploration made in the first case reported materially shortened the life of the patient. She might possibly have died from the malignancy of the typhoid infection, but it would probably have occurred at a much later date.

In spite of the fact that exploration does add somewhat to the burdens of these patients, we ought by all means resort to it when it becomes necessary to distinguish between a perforated typhoid ulcer and a fulminant attack of appendicitis, because either of these conditions present an unfavorable prognosis when surgical measures are not employed. While recognizing the danger of an exploratory incision, we must choose it as the less of two dangers under the conditions above depicted.

One may reasonably question the wisdom of operating in cases of "typhoid" appendicitis, *i.e.*, those cases in which typhoid ulcers are located in the appendix as well as elsewhere in the intestinal tract. Should one be so fortunate as to make the diagnosis of this condition he would probably be wise to refrain from operation because of the unsatisfactory general and local conditions. The small proportion of perforations would be a valid objection to advising operation in all of these cases. Symptoms of perforation of the appendix would, under these circumstances, probably closely approximate those of intestinal perforation, and their presence would be an imperative call for intervention.

Dr. Levi Jay Hammond has (*Journal American Medical Association*, April 16, 1904) considered the influence of appendicitis upon a subsequent attack of typhoid fever. He arrives at the conclusion that a previous appendicitis predisposes to perforation by reason of the ileum and large intestine being bound down by old adhesions, this fixity preventing the necessary expansion of the bowel when it is the seat of marked ulceration. He refers to several cases in which the adhesions may have played the rôle ascribed to them. His conclusion is that "when a case of typhoid fever presents among its earliest symptoms pain to the right of the hypogastric region, with tenderness, nausea or vomiting, aching or discomfort in the groin, oftentimes extending down the leg, anorexia, and last but not least, rigidity of the right rectus muscle, a relighting up of a preexisting disease should be suspected, knowing, as we now do, that the right iliac fossa is not tender in typhoid fever, at least not until after the seventh or eighth day, when the bacillus of Eberth is deposited in the glands of the intestine (Peyer's patches). Immediate laparotomy would seem the only wise course to pursue, removing not only the appendix, but thoroughly freeing the agglutinated coils of the ileum from its tied-down position, which must of necessity impair nutrition of the parts, and consequently diminish its structural resistance." It is exceedingly difficult to follow the writer's chain of reasoning by which he arrives at the conlusion or knowledge that the patient has typhoid fever. We can all see that the symptoms given above are indicative of appendicitis, but they are, according to the author's own statement, never present in typhoid fever before the seventh or eighth day. His statement should be pruned of all reference to typhoid fever and be construed to mean that an early operation is indicated in cases of appendicitis. It is probable, in view of the greater comparative prevalence of typhoid fever, that the influence of typhoid fever upon a subsequent attack of appendicitis would be a much more profitable question for discussion.

There are many correlated questions which might be discussed in this relation, but the limit of time forbids our entering upon their consideration. I have endeavored to confine my remarks to observations made from personal contact with cases of this class, and have therefore not drawn extensively upon the literature of the subject.

MACULAR ATROPHY OF THE SKIN.*

BY EDW. H. SHIELDS, M.D.,
CINCINNATI.

The case which I am about to report is very unique and rare, and I thought it worthy of your attention. In searching literature I find only one similar case, reported by Jaddassohn in the *Verhandlung der. Deutschen Dermatologischen Gesellschaft*, 1892, page 342. Jaddassohn's case corresponds in all details with the one I report. Beer's report of a case in the *Archives of Dermatology and Syphilis*, 1892, page 835, has many points in common with my case.

My patient is a young man, twenty-four years of age, a native of the United States, and by occupation an electrotyper. His appearance is that of a well-developed, well-nourished and intelligent man, weighing about 170 pounds. Father and mother both healthy and have never had any cutaneous disease. The patient has had the ordinary diseases of childhhood. He was referred to me October, 1903, and I obtained the following history:

About three years ago he developed a sore on the glans penis; in due course of time the roseola appeared and an angina, and with this triad of symptoms his physician made a diagnosis of syphilis. Under judicious treatment, instituted by his family physician, all evidence of syphilis disappeared. Two years ago (one year after his inoculation with syphilis) macular atrophy of the skin appeared, and his physician, thinking that the patient was developing some new secondary lesions, renewed the antisyphilitic treatment. The first symptom developed on the middle third of the leg, two inches from the shin bone, as a dusky red spot about the size of a dime and slightly elevated, free from pain and itching—in fact, had the lesion not been seen, the patient would not have been aware of its presence. After the lesion had existed a few days (the patient informs me) he experienced a pricking sensation. A few weeks later—just how long the patient does not remember—a number of these red spots made their appearance on the anterior and posterior surfaces of the thighs, legs, shoulder, arms and forearms; also upon the abdomen, buttocks and forehead. Later on the "red spots" began to change color, became flatter and lost their smooth appearance.

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Then it was that the patient consulted me, and I observed the following. The entire skin was extremely sensitive, the slightest friction causing irritation. A number of red marks were seen where his clothing fitted lightly, and the impression of the back of a chair was plainly visib'e upon his back. The skin presented a peculiar reddish glow (the same as seen after a very hot bath) instead of the normal color. There were numerous lesions scattered over different parts of the body in different stages of involution, which can best be described as follows. New lesions made their appearance as dusky red macules, and later became somewhat elevated; they gradually increased in size until (as in this case) they measured from one-half to one inch in diameter. The long axis of the lesions corresponded to the lines of cleavage. No pain or discomfort was noticed in the beginning, but after a few days a sensation of pricking was noticed at intervals; these abnormal sensations disappeared when the lesions began to fade.

In from two to four weeks the macules appeared to have reached their acme and involution began. The redness persisted, but the lesion became flatter, and at the expiration of two or three weeks the lesions were level with the skin. From this time on interesting and characteristic changes began to manifest themselves, and up to this time it was impossible for one to arrive at any definite conclusion. From simply having observed the lesions in the early stages, with the marked sensitiveness of the skin, one might have been led to believe that the lesions in question were of an urticarial nature. After the lesions became level with the skin the redness began to fade, and instead of the dusky red color the lesions had a pink or waxy color, such as is seen in lichen ruber planus.

Concomitant with the change in color we have a change in the macule itself, which, as just stated, was level with the skin, the lesion becoming depressed. The tensity of the epidermal covering, which in the beginning of the disease was increased, becomes lax, and later presents a fluted or ruffled appearance, which one can best compare with French rice cigarette paper. This shriveling or atrophic process continues for about three months, when the local process seems to be at an end, presenting the following macroscopic picture. The primary lesions are one-fourth to one inch in size, slightly elevated, of a dusky red color, and have a tense, hard feeling. This is the picture of a fully developed lesion. Later the skin of the affected area becomes normal—that is, the elevation disappears, the red color blending with the diffuse redness of the skin, and later assuming a pink or waxy hue. I am satisfied that the lesions would have a white color if it were not for the general capillary dilatation.

The tensity of the affected area, which in the beginning is greatly increased, gives place to a soft, velvety feeling as involution progresses. The epidermis covering a macule is so loose that it can be picked up between the fingers. On attempting to remove a section of skin from the patient's back, I encountered a considerable resistance and changed knives, thinking that my knife was dull, but I experienced the same difficulty with the second knife, and it now dawned upon me that the resistance was not due to the knife, but to the sclerosed tissue. A section through the tissue removed showed a dense white structure. The excised piece of skin was hardened in formalin and stained with hematoxylin-eosin and acid orcin. When a stained section was examined with low power these three conditions first presented themselves: (1) thin reta; (2) faint staining of the papillary and subpapillary layers; (3) deep staining of the corium. The stratum corneum is thinner than usual, but where the skin is in folds it is thickened. I was unable to find the homogenous mass as described by Neuman. The stratum lucidum is absent. The stratum granulosum is reduced to one layer of extremely narrow, elongated cells, and in some places this layer is not to be found. The reta Malpighi is very atrophic; in some instances it is only three or four cells deep. The prickle cells are small and are somewhat elongated; pigment is abundant in this layer. The basal layer contains an excessive amount of pigment and the cells appear somewhat rounded. The papillary layer presents the greatest change. In many places the papillæ are absent; in some sections the papillæ are flat and wide. Hyaline changes are observed in the papillary and subpapillary layers; the fibres are thin and atrophic, pigment is abundant. The blood vessels are dilated, but the vessel wall is of normal thickness. The fascicles of the fibres of the corium are greatly thickened, and in some places are so hypertrophied that they have the appearance of a solid homogeneous mass. The round cell infiltration in the papillary layer is not marked; in some instances it extends up or into the reta. The greatest infiltration is seen around the blood-vessels, but in no instance was I able to demonstrate changes within the vessel wall. Unna found the calibre of the vessels much smaller than normal, and in some instances obliterated. The sweat glands, as well as their excretory ducts, are normal. The sebaceous glands are small; this is not due so much to atrophy as to their location in the body, viz., the small of the back. The hair-follicles are normal, the muscle arrectores pilorum is normal. The elastic fibres of the papillæ are thin and in some instances entirely obliterated. In the subpapillary layer the elastic fibres are fewer and thinner, but retain their fibrillary appearance. In the corium proper the elastic fibres are short, thick, and have a granular appearance. In the very dense portion of the corium the elastic fibres are absent. The elastic fibres around the blood-vessels, sweat- and sebaceous glands are greatly diminished. The amount of blood extravasated into the deep layers of the corium and around the sweat-glands is to be particularly noted.

After making a thorough examination of the nervous, circulatory, digestive and urinary systems, the only symptom that I could bring out was a hyperesthesia of the skin.

From the preceding history and symptoms you can readily understand that a diagnosis would not be possible in the early stage of this disease, and that the fully developed symptoms from which the disease receives its name seems to be of a secondary nature.

The origin of the early stage is quite obscure, and resembles other diseases such as urticaria and erythema exudativum. It seems rational for me to believe that the early symptoms are due to some disturbance in the vaso-motor system permitting of a large serous exudate; this in turn is followed by a slight inflammation, and as the result of the long continued pressure and inflammation we have atrophy, producing the characteristic symptoms.

From the examination of various specimens I can see no reason why syphilis should not be eliminated as the *causus morbi*.

FOREIGN BODIES IN THE CORNEA.*

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The structure of the cornea is such that considerable damage may be done to its epithelial layers without leaving any permanent evidence of the injury. If the pavement epithelium of the surface of the cornea is removed to a considerable extent, twenty-four hours may suffice for its entire reproduction. If the spheroidal or cylindrical epithelium which constitute the deeper layers is abraded, great pain and lachrymation immediately ensues. The superficial nerves of the cornea are thus exposed, and the nutrient channels which ramify the deeper layers of epithelium being opened, infectious material may find ready entrance. The anterior elastic layer of the cornea cannot be broken without leaving a permanent mark of opacity. The structureless hyaline elastic connective tissues, when punctured, incised or lacerated, must be repaired by cicatricial formation, and all cicatricial tissue is necessarily opaque, because of the heterogeneous relations of the connective tissue fibre cells which produce it.

We may, therefore, classify injuries of the cornea as: (*a*) Severe, where the corneal epithelium is invaded beyond the surface layer; (*b*) grave, when the anterior elastic layer of the cornea is penetrated; (*c*) perilous, when the whole cornea has been penetrated. In all these forms of injury, extent of surface, as well as depth of penetration, must be considered. For example, an aseptic needle, or knife, may be driven through the cornea, evacuating the aqueous humor, and, if the size of the instrument be such as to make a very small opening, the eye may recover in twenty-four hours, without having suffered any distressing symptoms. If, on the contrary, the instrument be broad and thick, there may be prolapse of the iris, or adhesion of the iris to the posterior lips of the wound.

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Where wounds occur from foreign bodies accidently brought into contact with the cornea, the extent of surface involved, and the character of the substance which produced the wound, may cause an injury which affects the continuity of the surface epithelium only, to become a fatal infection to the whole eye.

Wounds made by particles of hard metal may be considered, other things being equal, as of the simplest type.

Wounds made by fragments of hair, small seeds and vegetable fibre, or splinters, increase in severity as they are permitted to remain in the tissue. Wings, legs, or shells of insects flying in the air constitute a separate class, and may put on all the characteristics of a poisoned wound from the very inception of the injury.

Grains of emery, sparks of melted metal, and all caustic substances which sometimes enter the eye are to be considered with relation to their chemical composition, and constitute, therefore, a separate class of injuries.

DIAGNOSIS.

The nature of the substance, its size, location and depth of penetration, are matters to be considered as of the first importance.

Particles of glass, or other transparent substances, may be driven through the corneal epithelium into the proper substance, or they may pass on into the anterior chamber and find lodgment on the surface of the iris and escape detection, sometimes gravitating into the angle between the iris and cornea in the anterior chamber, causing photophobia, lachrymation and peri-corneal injection of the blood-vessels. Even a carefully conducted search under oblique illumination may fail to disclose any corneal injury. Therefore, in cases of doubt, a drop of fluorescin should be instilled into the eye, and a careful search made with the ophthalmoscope to disclose the foreign substance. In any event, the fluorescin will instantly stain even the minutest breach, or abrasion in the corneal epithelium. If the foreign body has passed through the cornea, it is of the utmost importance to determine its nature and precise location in the eye, and, if possible, to remove it at the earliest moment after receipt of the injury.

A fine grain of white sand may penetrate the corneal epithelium, causing the eye to feel an occasional stinging pain, with free lachrymation, and yet the most searching examination with the ophthalmoscope and oblique illumination may be required to detect its presence.

Oblique illumination, which should be employed in every case, though the foreign body may be large enough to be distinctly seen with the unaided eye, should be practiced in order that other and smaller particles may be detected and removed; and, in case friable and semi soluble substances are present, this method of examination is necessary to avoid retention of fragments of the larger body.

Placido's disc is an unsatisfactory instrument for detecting foreign bodies in the cornea, however valuable it may be for locating superficial abrasions, or asymmetry of corneal surface from previous abrasions, or injuries which have been repaired by cicatrization, leaving no apparent opacity.

The ophthalmoscope, oblique illumination, with inspection through a 20.00 D. plus lens, with the fluorescin test, constitute the means to be relied upon in the search for foreign bodies in the cornea.

The pupil, in all cases of irritation from this source, is contracted. If the foreign body has been present in the eye for several hours, or, as is often the case, for several days, the lachrymation, photophobia, peri-corneal injection, and contracted and immobile pupil, with the sensation of foreign body under the upper lid, at the outer angle, complete the picture of characteristic symptoms of acute iritis, and the surgeon may be misled in his diagnosis. It is, therefore, important in every case presenting this group of symptoms in part, or as a whole, to make a thorough examination of the condition of the cornea.

TREATMENT.

A necessary preparation for the removal of a foreign body from the cornea, and sometimes even for purposes of diagnosis alone, consists, first, in flushing the eye with a saturated solution of boric acid.

If much vascular injection is present, a drop of a solution, 1 to 1,000, of the chloride of adrenalin should be instilled into the eye, and about a minute afterward, a single drop of a 4 per cent. solution of cocaine should be allowed to fall directly on the cornea. After a few seconds of exposure the lids should be closed and kept so for the space of three minutes; it will then be found that the surface of the eye is in an anesthetic condition, when the examination should be proceeded with without further delay; and, when the foreign body, if one be present, is located in the corneal epithelium, or deeper within its substance, the operation of removal should be undertaken.

The instruments to be employed in the removal of all small foreign bodies from the cornea should be limited to two forms: first, a well-pointed, small, spear-shaped needle, with two sharp cutting edges; second, a gouge of about one millimeter in diameter, with a keen cutting edge at its extremity.

Minute sparks of metal, commonly called grains of emery, which fly into the cornea while grinding, produce a minute brown stain, and whilst the nucleus of such a body may be removed with the spear-pointed needle, an area of stained tissue remains, which, if not removed, will keep up the irritation until sphacellation and sloughing occurs, leaving an ugly, and, it may be, an infected ulcer. Having removed the solid central portion with the needle, the infiltrated tissue surrounding it may be cut out by a neat application of the gouge, which may be revolved like a drill, taking care not to penetrate the anterior chamber.

If a grain of sand, a minute particle of stone, metal, the husk of a small seed, a portion of the shell, or other part of an insect, a bit of hair (which, when cut short, sometimes penetrates the corneal epithelium) be present, remove with the needle, taking care not to abrade the cornea beyond the area of penetration by the foreign body. Having completed the removal of the foreign substance, the eye should be flushed, first with boric acid solution, then with a solution made of ten grains of boric acid, one grain of carbolic acid crystals, in one ounce of distilled water. Having thus cleansed the eye thoroughly, a bit of gauze should be laid over the closed lids, and enough dry cotton wool laid over the gauze to fill up the irregularities of the orbital excavation, and a sufficient number of stips of adhesive plaster, about three-eighths of an inch wide, drawn from the cheek to the brow, completely closing the eye, and especially fixing the lids without pressure upon the globe. This dressing should remain twenty-four hours; meantime the fellow eye should not be exposed to bright light. In all ordinary cases where the foreign body has been removed before inflammatory changes have occurred, the twenty-four hours of rest, secured in the manner described, will be found sufficient time in which to permit the eye to entirely recover from the injury. If, however, infection is indicated by the grayish infiltrated area at the site of the foreign body, careful scraping with the needle, or gouge, is to practiced, in order to remove as much of the infiltrated tissue as possible. The eye should be kept closed by laying over the lids a small quantity of cotton wool, saturated in a solution of boric acid and carbolic acid, renewing the dressing every hour during the daytime; and, if the eye is painful, and photophobia is considerable, a solution of atropine sulphate one-half grain, carbolic acid crystals one grain, in one ounce of distilled water, may be instilled at each change of the dressing.

The general condition of the patient should be noted. One degree of elevation of body temperature should call for a free unloading of the alimentary canal, which may generally be best accomplished with one grain of calomel, one-half grain podophyllin, three grains of bicarbonate of sodium, followed, if necessary, by two drachms of bitartrate of potassium in one pint of water. This will not only secure free action from the bowels, but the skin and kidneys likewise. Nothing tends more to promote the rapid extension of a local infection than a general plethora, and nothing may be found better adapted to the reduction of a plethora than the course suggested.

It may be laid down as a safe and sound rule that pain, with a sense of fullness about the eye, is most readily and promptly relieved with salicylate of sodium, say ten grains in a large glass-full of water, every half hour until the pain is relieved. Usually one or two doses suffice. Opiates of every form are contraindicated in all painful affections of the eye.

Those foreign bodies in the cornea, like splinters of wood fibre, or long pieces of metal, which may be seized by small forceps and drawn out, leave wounds which are to be treated as though infected, until the contrary fact is established.

Small particles of steel, and brass filings, which are sometimes driven into the corneal epithelium, or even deeper, may be best removed with the electromagnet.

The practice of some surgeons of using a small spatula, called a spud, for removing projecting minute foreign bodies from the cornea, cannot be condemned too severely, as the instrument always creates more or less unnecessary abrasion; and, in the removal of the foreign body by this means, the dragging or harrowing effect adds greatly to the extent of the wound. Many an eye has been destroyed in this way, as well as by other unsuitable instruments employed for the removal of foreign bodies from the corneal epithelium.

In that character of wounds produced by foreign bodies which occupy the central, or proper substance of the cornea, care must be taken to cut down beside them, so that the incision shall terminate near one extremity of the opening through which the body passed; and, the needle being passed behind, the foreign body may generally be lifted out with ease, always being sure not to penetrate the posterior elastic layer.

Where the foreign body has penetrated into the anterior chamber, and lies imprisoned in the corneal wound, a Beers cataract knife should pierce the cornea through its peripheral portion nearest the foreign body, and holding the eye firmly transfixed by the knife, the wound of entrance of the foreign body should be enlarged as above described; and, using the surface of the Beers knife as a firm background, or basis, for whatever pressure may be needed to complete the enlargement of the wound, the removal of the foreign body may be safely accomplished.

If the foreign substance fill into the anterior chamber, an iridectomy should be done, including that portion of the iris upon which the foreign body lies.

In every case after removing a foreign body from the cornea, the eye should be treated as described, and in no instance should the patient be permitted to go with the eye uncovered for at least four hours after the operation of removal.

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

Meeting of November 28, 1904.

THE PRESIDENT, S. P. KRAMER, M.D.,
IN THE CHAIR.

STEPHEN E. CONE, M.D., SECRETARY.

Syphilis of the Eye.

DR. E. H. SHIELDS : Patient, aged forty, married, architectural iron worker, presented himself at the clinic of the Miami Medical College last January, complaining of terrific headache. The pain was most severe in both temporal regions. Also complained of falling sickness. Family history negative.

Personal history: Had diseases of childhood, gonorrhea twenty years ago; *denied ever having had syphilis.* Twenty years ago was shot in the face without any apparent severe injury.

Present illness: As stated, the patient came to the college last January complaining of headache and falling sickness. The pain in the head had existed for several weeks, gradually increasing in intensity. Pain more or less constant. Epileptic attack came on shortly after the beginning of the headache while seated at the supper table, and the description, as furnished by his wife, is typical of the attack. Patient remained unconscious for twelve hours. In all the patient had seven attacks, the periods of unconsciousness varying from a short time to eight hours. With the exception of these symptoms the patient felt well.

The eyes were examined by Dr. Tangeman and were found to be normal. From the history and in the absence of other symptoms pointing to new growths, etc., within the skull, a diagnosis of syphilis was made. The patient was placed on increasing doses of K. I., and within four days the headaches began to intermit and in one week they had entirely disappeared, and the patient stated that he felt as well as ever. Since this time he has never had an epileptic attack. It might be well to mention that the patient took fifty grains of K. I. t.i.d. for two months.

On October 25 the patient again came to the clinic, complaining of pain in the head, which was more or less constant, and of double vision. He stated that while fishing he suddenly noticed two poles instead of one in his hand, and on catching a fish, what was his surprise to see two fishes instead of one. Not being a drinking man, he thought that he had best return home, which he did, when, again to his surprise, he noted that he was cross-eyed. I might also state that since last March he has suffered from complete anosmia.

On examination it is readily seen that the patient has a paralysis of the left external rectus muscle, indicating an involvement of the sixth nerve. On testing the sense of smell the same is found to be entirely absent. Physical examination otherwise is entirely negative. Examination of the eye grounds was made with negative results. Patient was again placed on K. I., and in a few days the pain subsided, and up to to-day there has been no recurrence. The rectus paralysis is about the same as before, not having improved under treatment.

From the above history it seems that we have to do with a case of syphilis which has progressed unrecognized by the patient, with a palysis of the nerves of smell and the external rectus muscle of the left eye.

DISCUSSION.

Dr. Louis Stricker: The doctor is to be congratulated upon having made the diagnosis, as I believe that cases of this kind are very frequently overlooked. The patient has some of the symptoms of what is known as acute cerebral syphilis. As the eye symptoms in this case were the first to appear, the question naturally arises as to whether it is a case of locomotor ataxia, because the ocular symptoms are only symptomatic of the general disease, and should not be taken as an eye disease by itself. I do not wish to go into this subject too deeply just now, as I expect to read a paper along this same line shortly. However, I believe that neurologists will bear me out that the mercurial treatment in such caces as this will yield much better results than the iodides. All oculists the world over (and for what reason I know not, but it is a fact) have recognized that ocular paralyses clear up much more quickly under mercurial treatment than they do under the iodides.

The ocular paralyses which come on in acute diseases, as a rule, have very good prognoses, good vision being the after-result. For myself, however, I have never seen an ocular paralysis which has come on in any kind of chronic syphilitic disease which has cleared up afterward. I have seen ocular paralyses which occurred in general sclerosis, locomotor ataxia, etc., which yielded to no form of treatment, whereas ocular paralyses coming on in acute affections in which the nerve was only pressed upon by an exudate, clear up in good shape. Paralyses due to ganglionic changes are hopeless.

Dr. Shields: Patients afflicted with syphilis of the eye, as a rule, do not come to me direct, but go to the oculist.

In reference to the relative effects of mercury and the iodides in these cases, there is a difference of opinion; there are cases where mercury is of the greatest value, the same can be said of the iodides.

It is a common fallacy with many to administer the iodides for gumma of the eye. This is a mistake. The so-called gumma of the eye, coming on during the early stages or period of syphilis, is not a true tertiary lesion; it is nothing more than a papule, and in this variety mercury is indicated and not iodine. This is easily proven, for if Hg is given the disease will yield very quickly, while, on the other hand, if the iodides are administered the disease will continue to make progress. The true gumma, which only makes its appearance during the late stages of the disease, readily yields to the iodides and not to mercury.

As to the prognosis in these cases, one can say that if the disease is taken in time good results may follow. About a year ago I had just such a case as the man presented this evening, and owing to the negligence of the patient the disease had progressed too far for treatment to be of benefit.

Fracture of Patella Treated by Suture Method.

DR. W. D. HAINES: I desire to present this patient to illustrate the method of treating fracture of the patella by buried suture, of which I spoke to you some time since. The patient was injured ten days ago. After rest in bed and application of the ice bags for one week a subdermal forty-day catgut suture was drawn about the fragments and the patient put on crutches.

DISCUSSION.

DR. WALTER R. GRIESS: It seems to me that the general rule in cases of fracture of the patella from indirect force (or muscular action) is that an open operation must be done, because the parts are so widely separated (the capsule of the patella being torn) that there is not much chance for any union. In fractures of the patella due to direct force, as we see in this case, the open operation is not always indicated by any means, because we deal with a different condition, the parts being held together by the capsule of the patella; and unless this capsule is torn, which allows separation, no open operation is indicated. I do not believe that the open operation is indicated in all cases of fracture of the patella; we must always take into consideration the nature of the injury and the amount of separation before we institute treatmet. I see no special objection in using Dr. Haines' method in this case, as the suture acts as a splint and allows the patient to walk about with crutches.

DR. H. J. WHITACRE: There are two points that I wish to make in connection with this very interesting case reported by Dr. Haines.

In transverse fracture of the patella by indirect violence, which is the usual form, there is a well-known laceration of the tissue on the anterior surface of the patella. The aponeurotic tissues anterior to the patella do not tear in a line corresponding to that of fracture, but at a point varying from one-half inch to one inch or more below the line of fracture. This gives rise to a fringe of fibrous connective tissue. This fringe invariably falls in between the two fragments of the patella. Now, if the two fragments are brought together by straps, plaster-of-paris bandage or the method of Dr. Haines, the bony surfaces are not brought into apposition. The fringe of fibrous connective tissue intervenes. It is a well-known fact that the one great cause of failure in union in long bone fractures is the interposition of some soft tissue, particularly fascia. It is a well-known fact, also, that most fractures of the patella treated in this way heal by fibrous union. I am certain that this interposition of a fringe between the fragments is the rule, since I have seen it over and over again during the open operation. This pathologic fact seems to me to demand the open operation.

There is a second point in the lesion which seems to call for a cutting operation. In transverse fractures by indirect violence the fracture of the patella is by no means the most important factor in the lesion. The laceration of tissues almost regularly extends laterally and involves the lateral ligaments of the knee joint. This lateral lesion will often give greater disability in the knee joint than the bony fracture, and many joints are weak after this injury because this defect has not been remedied. Such defects cannot, of course, be in any way affected by the nonoperative methods enumerated. I therefore believe that in fractures of this variety the open operation alone should be performed, preferably by a transverse incision; that the fringe between the bones should be removed and the lateral laceration accurately repaired. This operation is safe; bony union is secured and the lateral ligaments of the joint are restored.

The two points, therefore, which I wish to make are, first, the importance of the fibrous fringe interposed between the two fractured surfaces; second, laceration of the lateral ligaments, or insertion of the quadriceps extensor, is perhaps more important than the fracture of the bone itself.

I agree thoroughly with the classification given by Dr. Griess. I was not specific enough in my remarks. I believe also that there are certain cracks of the patella due to direct violence which do not need operation.

Dr. Robert Carothers: I want to substantiate and agree with what Dr. Whitacre said. I believe that most of these cases should be treated by the open method, but, of course, not all. From the histories of the cases I believe that nine times out of ten the fracture is due to indirect violence, and the interposition of tissue or a blood clot is certainly detrimental to the process of repair. As I said, I believe in the vast majotity of the cases the open method is the best procedure.

Dr. Haines: I probably indicated the limits which the gentlemen have put upon this operation in the little report which I handed in some time ago in reference to this method of treating fractures of the patella. In that report I said that in the event of the interposition of tissue, or even blood clot, I would not hesitate to do the open operation, and I merely suggest this method where those conditions do not exist. A man can certainly tell whether there is anything between the fragments by rubbing them together, which procedure is a prerequisite to introducing the suture. Blood will be absorbed if you apply ice and keep the patient quiet for ten days, and this is the first step in dealing with the fractures by this method. One great advantage in this method of treating patellar fractures is that you put your patient on his feet in a few days. In some eight or ten cases in which I have used the ligature I have had no reason to regret its employment. Two of my cases have some difficulty in going down stairs, but otherwise the function of the leg is the same as prior to the injury, and X-ray shows bony union.

Chronic Oophoritis.

Dr. J. Ambrose Johnston: This specimen is that of a chronic inflammation of the ovary. The patient from whom it was removed is forty years old and unmarried. She has complained of pain for ten years in the lower abdomen, especially at the menstrual periods. She had some reflex pains about the breasts. Not being able to detect anything wrong in the pelvis, yet believing the trouble was there, I gave the patient a general anesthetic and found what I thought was a small cystic ovary, probably an inch and a half in diameter. On October 18, 1904, I opened her abdomen. I was surprised to find so large a cystic ovary as this. It had many small adhesions running to various points in the pelvis. These adhesions felt taut like violin strings. Of the two forms of chronic oöphoritis, one characterized by increase of the size of the ovarian follicles, the other by increase of connective tissue, this specimen represents the cystic. These cysts are transformed ovarian follicles whose walls are thickened, and the ova, together with the membrana granulosa, have been absorbed. Sometimes the septa are absorbed, throwing two or more cysts into one cavity. A cystic ovary rarely exceeds the size of a hen's egg. The patient is making a good recovery.

Specimen of Dilated Stomach.

Dr. Henry Wald Bettmann: This stomach was removed to-day at the City Hospital from a woman, aged forty-five years. The very great size of the stomach will be at once apparent. The fundus reached well into the pelvis. The pylorus was slightly displaced downward. The whole stomach was prolapsed between the two supports and hung down between cardia and pylorus. A careful search fails to reveal any sufficient cause for the dilatation beyond a slight thickening of the muscularis at the pylorus. There are no ulcers and no cicatrices. This specimen is therefore a positive evidence in favor of the view that dilatation of the stomach may result from neglected atony, and may be independent of ulcer or adhesions.

Cholelithiasis with Perforation of Gall-Bladder.

Dr. Harry G. Marxmiller: "It is just possible that as some persons pass urinary stones with few or no symptoms so others may pass small biliary calculi. This, however, has yet to be proved, and in the meantime it is difficult to explain why in some persons gall stones should produce such serious trouble, while in others they give rise to none at all." (Mayo Robson, "Disease of Gall-Bladder.")

This statement was brought most forcibly to my mind when, on the evening of 10th of November, I was asked to see

Mr. George M., fifty-two years of age, a druggist by occupation, from whom I obtained the following history: Married, of regular habits, does not drink, uses tobacco moderately, and gives no history of venereal diseases. His family history is good, his parents living to a good old age—father eighty-four years and mother eighty-one years. One brother and two sisters, all living and well. He has followed his profession of pharmacist since 1869, with the exception of an interval of eight years, when he traveled for a watch-case factory. He had the ordinary diseases of childhood—measles, mumps, etc.—and was well until seventeen years ago, when he was attacked by what he called stomach cramps and biliousness, which came on very suddenly. For this a Dr. K——— prescribed morphine tablets, and to relieve the severe pain gave a hypodermic injection of the same. Being a pharmacist, he did not follow the dictations of his medical adviser, and refused to take the morphine, and in its stead took a dose of tartar emetic, from which he obtained relief. He recovered from this attack shortly and went without another for several years, when he was again attacked in a peculiar way. This attack came on very suddenly with a severe pain in the back, the pain being so severe that he was unable to walk, and was sent home in a carriage. Accompanying the pain vomiting of a bilous material and severe jaundice intervened. A dose of calomel and tartar emetic relieved the attack. He began then to take active exercise, as advised by a medical friend, and took long walks, alternating by riding the bicycle. During this period of activity he was free from attacks. Following this period of activity there followed a period of several years of quietude and inactivity, which changed him from a cheerful to a melancholic individual, he losing all interest in both life and business and suffering during this time with chronic indigestion and biliousness.

On the 10th of November, however, came the last attack, and after taking freely of calomel and other cathartics, he failed to relieve his spell of biliousness, and instead of improving, as he did in previous attacks, he became worse and nausea and vomiting set in, that was only relievd by the total absence of food or drink, for even the smell of food produced nausea. After two days of rest and absence of pain he took a bit of beef soup, and at once the colicky attacks returned and increased in intensity, so that the patient could assume no position of comfort. An examination revealed distinct tenderness over the region of the gall-bladder that radiated up towards the tip of the right shoulder and under the shoulder blade; there was also present a marked jaundice and bilious vomit. The area of tenderness, however, increased so that the whole right side to the outer margin of the rectus from the iliac crest to the lower border of the ribs was involved. A diagnosis of gall-stone colic was made and an operation advised. At this time Dr. C. A. L. Reed was asked to see the case with me, he concurring in the diagnosis. The patient was given one-fourth grain of morphine and prepared for operation.

Dr. Reed made an incision parallel to the lower border of the rib, over the region of the gall-bladder, and after opening the peritoneal cavity there was a free flow of bile, and we at once thought that the gall-bladder had become adherent to the abdominal wall and opened by the incision. However, the gall-bladder was found down under the liver and not presenting in the wound. It was brought up to the margin of the wound and a perforation about the size of a quill found in the fundus. This opening was enlarged, after first surrounding the gall-bladder with gauze towel, and a large number of gall-stones removed. A large calculus found impacted in the cystic duct was removed and the common and hepatic ducts found free. The gall-bladder was then stitched to the margin of the wound and drained. It was also necessary to drain the peritoneal cavity, as quite a large quantity of bile had escaped into it. Chloroform anesthesia was used and the patient rallied from the operation nicely, the temperature not going over 100° at any time. Forty-eight hours after the operation, however, the pulse began going up, and on the evening of the second day had reached 146 and was scarcely perceptible at the wrist. Enemas of salt solution were given, and hourly hypodermic injections of strych. sulph. one-sixtieth grain, with aromatic spirits of ammoniæ and whisky, twenty drops each, which, after ten hours, brought the pulse down to 120, and in twenty-four hours more down to 90. The patient went on to recovery. The drainage was removed from the peritoneal cavity on the morning of the fourth day and the rubber drain from the gall bladder on the ninth day.

It seems to me that the after-treatment in these cases is as important as the operative procedure, and that the weakness of the heart was due to the strain put upon it by the duration of the attack of colic, the absorption of free bile, the anesthesia, and the shock of the operation all combined.

Cholecystotomy and Nephrectomy for Gall-Stones and Pyonephresis (Tubercular).

Dr. B. M. Ricketts: Mrs. M., white, aged fifty-six, patient of Dr. J. H. Barker. Gave distinct history of gall-stones extending over the last twenty years, with a very acute attack about ten years ago and frequent attacks during the last year. Present attack began September 12, 1904. Examination showed marked tenderness with tumefaction in right upper quadrant of abdomen. Diagnosis: Gall-stones and probable sarcoma of kidney.

Operation.—Cholecystotomy was done September 27, at 10 A.M., and four stones, each three-quarters of an inch in diameter, were removed from the gall-bladder. Both kidneys were examined and the right one found to be enlarged.

Convalescence was uninterrupted until October 19, when severe pains developed in the region of the right kidney. Examination showed tumor in right side developing rapidly.

On October 23, at 10 A.M., lateral nephrectomy was made. The right kidney was found to be about three times its normal size, being greatly distended with pus. It was removed without soiling the tissues and did not rupture. It was opened after its removal and found to contain about eight ounces of pus of tubercular origin. Recovery uneventful.

During the first twenty-four hours after the operation only about fifteen ounces of urine was voided; during the second twenty-four hours twenty-four ounces; the third twenty-four hours thirty-two ounces; fourth twenty-four hours fifty ounces, since which time the quantity has varied from thirty-five to fifty ounces per day.

CLINICAL SOCIETY OF THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL.

Stated Meeting December 5, 1904.

The President, Daniel S. Dougherty, M.D., in the Chair.

New Adenoid Forceps.

Dr. George B. McAuliffe presented a new adenoid forceps, the principle feature of which was the safety with which it could be used by beginners in this line of work. Mutilation of the parts, except the adenoids, was avoided. The instrument could be taken apart and thoroughly sterilized, and the parts could be interchanged, thus making it possible to use different sized cutting blades with the same handle. The cutting blades were hinged behind and were swivelled on the handles. The instrument is made by Kennedy & Frech.

Dr. F. J. Quinlan opened the discussion of these forceps, saying that in his opinion the angle was a little too sharp. Most of the growth comes on the superior and posterior wall, and in his opinion the instrument would be much improved if the angle were such that in resting on the incising path it would remove the tissue from the growth foci. He thought, however, that the instrument was very practicable.

Dr. D. J. McDonald said that he had seen the forceps used at operations, and they were thoroughly practicable, but, of course, did not dispense entirely with the use of the curette. He thought this instrument, used in connection with Dr. Quinlan's forceps, would bleed any case of adenoids, and thought that one instrument should be used to supplement the other.

Patient Demonstrating the Use of Theocin in the Treatment of Nephritis.

Dr. A. Reich presented this patient, a boy, eight years of age. His family history was of no importance, and he had always been well himself until he developed measles at three years of age. When one year old he began to drink beer and California wine at supper time. From half a tumbler full he gradually took a tumbler full of either beer or wine, and was intoxicated several times from the effects of brandy and whisky. In March, 1903, he developed scarlet fever, which was followed in May by nephritis, showing slight edema under the eyes and face. The urine contained considerable albumin, large epithelial casts and fine granular casts. His condition grew gradually worse, until, in July, there was general anasarca, the abdomen at the umbilicus measured thirty-five inches, and there was edema over the right lung, posteriorly below the angle of the scapula. There was a pleuritic exudate on the left side, up to the sixth rib; pericardial dullness also increased. The patient was very short of breath, temperature was 101° and pulse 96. He passed four ounces of urine in twenty-four hours. The treatment up to this time had consisted of milk diet, cereals, Vichy water, calomel, acetate of potash, digitalis and hot baths. The treatment was now changed to diuretin and jalap, and to relieve the distress he was tapped and five and a half quarts of water removed. The urine increased at once to eight ounces per day, but gradually the abdomen filled again, in spite of high salt irrigations, hot packs, etc., and it was necessary to tap him every two weeks. After tapping him a No. 1 soft rubber catheter was left in the abdomen for constant drainage, and another time five strands of silkworm-gut were put in, but each time a localized peritonitis made its removal necessary in from twelve to twenty-four hours. In September his condition continued the same, with the addition of a distinct caput medusæ. He was tapped for the last time on November 18, and on December 1 he was given his first dose of theocin, which caused an increase of urine to a cup full a day, and in four days to four cups full a day. He was left in this condition for a few days, when the abdomen began to swell again, and the urine dropped to eight ounces, when theocin was again given for one and one-half weeks. The anasarca disappeared completely and never returned, and now (a year later) the urine contains no albumin. The theocin was given two and a half grains four times a day.

Result from Operation for Cleft Palate.

Dr. J. A. Bodine exhibited a girl, eight years of age, with a result from an operation for cleft palate. He stated that these operations were regarded by surgeons in general with trepidation, because of the many mechanical difficulties in effecting a closure and of the many disappointments in the healing. Tension upon the stitches after suturing, plus an infection in the suture-line, always present in the mouth, are the main causes of failure. In the obviation of tension on the flaps lies the thoroughness of the denudation of the muco-periosteal flaps. Some study should be given to the position of the foramen accommodating the exit of the anterior palatine artery, because destruction of this vessel will cause sloughing of the flaps. If Rose's position is thoroughly understood, there is no interruption of anesthesia and no entrance of blood into the larynx. As the soft palate approaches the hard palate it divides into two layers, the upper layer covering the floor of the nose, the lower one the roof of the mouth. When the soft palate has been thoroughly separated from the posterior edge of the bony hard palate, the upper layer, or that continuous with the floor of the nose, is divided. As the preservation and improvement of speech is one of the incentives to these operations, it is necessary to preserve the integrity of the tensor palati and levator palati muscles. The old method of making a wide lateral incision into the soft palate, of course, destroyed these muscles, and disappointment in the improvement of speech resulted inevitably. Instead of cutting these muscles the hamular process of the sphenoid bone around which winds the central tendon of the tensor palati muscle should be fractured, which throws this muscle out of position temporarily, while healing takes place. Later on this same muscle is able to do its work in assisting the child to phonate correctly.

In the speaker's opinion, it is fatal to success to use cat-gut, kangaroo tendon or silkworm gut for sutures. The absorbable ones are uncertain in stability, and almost certain to result in infection, while the silkworm gut cannot be tied with smoothness, and the projecting ends irritate the child's tongue. Silk is, in his opinion, the proper material, but the capillarity of the silk strands should be destroyed by immersion in tincture of benzoin before use. In the after-treatment of the child it is well to keep the atmosphere moist with a steam kettle.

Dr. D. S. Dougherty said that he had performed one or two operations for cleft palate, using Dr. Bodine's method and the results had been very satisfactory.

Dr. Quinlan said that it was rather difficult, after the successful performance of an operation for cleft palate, to teach a child as old as the patient exhibited by Dr. Bodine to use muscles which had either been completely atrophied or had never been used. These muscles should be stimulated in some way, as the resultant vocal effects were among the most important results of these operations. These children should be especially drilled in saying words that they never have pronounced before, especially words where resonating force is required.

Result of Schwartze-Stacke Operation for Mastoiditis.

Dr. G. B. McAuliffe presented a young girl on whom the Schwartze-Stacke operation had been performed for otorrhea. A double Stacke operation was performed, and while it did not take the preservation of hearing into as much consideration as the prevention of cerebral metastasis, nevertheless the girl is able to hear ordinary conversation without betraying any aural disability, while the cosmetic effect of the operation is, furthermore, perfect.

Dr. Earl Connor, in discussing the case, said that while the wound was very extensive, if the girl retained any part of her hearing the operator was to be congratulated upon the result.

Dr. D. J. McDonald said that usually after a radical operation the patient is unable to hear, and consequently this case was very interesting.

Ulcers of the Larynx for Diagnosis.

Dr. McAuliffe also presented a man who had four ulcers on the throat, two anterior to the posterior pillars and two on the posterior wall of the pharynx. Examination of the tissue by a pathologist failed to reveal anything characteristic, and there was no history of tuberculosis, syphilis or carcinoma. The speaker said that he had been unable to make a positive diagnosis, and asked if any one in the society had had a similar experience. Innunctions of mercury had benefited this patient greatly for a week, and for lack of a better diagnosis it was categorized as a tertiary specific lesion.

Dr. Quinlan said that for a long time he had divided ulcerations of the throat into diphtheritic, malignant, specific or tubercular, but upon reviewing the literature upon this subject some time ago he discovered that the Germans have an idiopathic ulceration. There is a form of pharyngitis in which the system is much run down, and the tissues of the pharynx sometimes present superficial erosions and then break down, and these little sores result. The speaker said that he had treated a patient presenting a similar condition to that shown by Dr. McAuliffe's patient with arsenic, and that the patches had disappeared completely. He thought the average physician too apt to class these idiopathic ulcerations as syphilis.

Dr. Dougherty said that he had seen a patient, a young girl, fifteen years of age, presenting almost the identical appearance of the patient presented by Dr. McAuliffe. She had been examined by several laryngologists, and examination of her chest, sputum and tissue were negative. Under iron and arsenic the condition cleared up.

Case of Bilateral Cervical Ribs.

Dr. E. A. Aronson presented a middle-aged woman who came to the clinic two weeks previously, complaining of a neuralgic pain in the back of her head, shoulders and back. Examination of both sides of the neck revealed the presence of a hard bony growth, more prominent on the left side, and over which a marked pulsation could be felt, with a distinct thrill. On examining the more prominent bony growth on the left side, it was found to extend backward to the vertebral column. An X ray photograph of the patient confirmed the diagnosis of bilateral cervical ribs. The patient complained that the pain was most marked at night, shooting downward to the left hand, and the rib on this side will be resected.

Dr. Milton. Franklin exhibited a radiograph of a case almost identical with that of Dr. Aronson. The patient had noticed a bony protuberance on the left side of the neck. There was no pain, but there was a distinct bruit and a thrill. The radiograph revealed the presence of an extra rib on either side of the vertebral column. On the left side there was an extra bone between the vertebra and the rib. The rib articulated with the sternum in the usual manner of the first rib, and corresponding with the second rib was an extra rib which ended in a wedge-shaped point passing outward and downward. On the right side the extra rib came first. It was in all respects similar to that on the left side, and the second rib resembled an ordinary normal first rib.

Demonstration of Specimen of Compression of Larynx Due to Sarcoma.

DR. DOUGHERTY presented this specimen. The patient had presented himself at the dispensary some weeks previous to operation, suffering from extreme dyspnea and some emaciation, but no pain and no dysphagia. Examination of the larynx revealed a large mass on the right side, involving the glands of the neck, crossing over to the larynx and involving the arytenoid on the opposite side, The patient appeared a week later with more pronounced symptoms, and the condition was then diagnosed as sarcoma. Professor Quinlan, who saw him shortly after this, agreed in the diagnosis of extringent sarcoma, and advised a tracheotomy, which was performed the same evening. under chloroform anesthesia. The knife was plunged in rapidly, the tracheotomy-tube inserted, and the patient took one long breath, expelled the air and expired. The speaker thought the patient's death might possibly be explained by the reaction which followed the shock to the inhibitory nerves and paralyzed the heart. One side of the larynx was pressed almost to the opposite side, the lumen was entirely diminished and there was no breathing space whatever.

DR. QUINLAN said that he had advised the operation performed by Dr. Dougherty, but he now thought that local anesthesia might have produced more favorable results than did the chloroform. In these cases, under general anesthesia, there seems to be a vasomotor paralysis, and the mucous membrane becomes more or less edematous; there was probably an encroachment upon the constricted lumen of the larynx, and a certain amount of mucous exudation, and the speaker thought that cocaine or some anesthetic used on the outside of the throat might possibly have produced much better results.

DR. BODINE said that he had been present at the operation and advised against the use of cocaine as a local anesthetic because of the depth of the trachea in a thoroughly swollen neck, where the tracheotomy had to be done so low that the large venous trunks at the root of the neck were in danger of being cut. There was a possibility of uncontrollable hemorrhage, that made, in his opinion, the use of local anesthesia in this case unadvisable.

DR. V. C. PEDERSON said that it was well known that when a patient has a respiratory difficulty in a conscious state, the difficulty will be increased in unconsciousness under any general anesthetic. He therefore thought all these cases should receive combined anesthesia, morphia freely, cocaine as far as possible, and then some general anesthetic. In the case of the patient under discussion, however, cocaine would probably have had to be abandoned because of the depth of the wound. He would advise administering a large dose of morphine prior to anesthetization in these severe cervical cases. At the Roosevelt Hospital the speaker had anesthetized many patients with serious throat lesions, and by combining local with general anesthesia and morphine, had been very successful. In one goitre case, only half the growth could be removed at one sitting; although the trachea was involved and deformed, the patient was kept quiet under morphine, and just a little ether for stopping the pain which the morphine failed to alleviate.

DR. DOUGHERTY said that the idea of local anesthesia had been discussed at the time of the operation, but with local anesthesia tho co-operation of the patient was required to a greater or less extent, especially in tracheotomy, and the patient was very nervous and exhausted and almost dying and could have given no help whatever. Dr. Bodine, who was present at the operation, agreed with him that the possibilities were that the mass could not be dissected out under local anesthesia, and chloroform was therefore administered. In regard to position, it was necessary to keep the patient's head in a particular position to allow him to get any inspiration whatever, and the operator worked with the chin slightly flexed.

Report of an Operation for Mastoiditis.

DR. QUINLAN reported the history of an infant seven months old on whom he had operated recently for mastoiditis. When he first saw the patient there was an entire absence of symptoms, except a small nodule at the lower junction of the ear. Temperature, pulse and respiration were normal. The patient's mastoid process was opened, and the pus poured out, the entire epiphysis being in such a condition that it appeared ready to fall in, and so soft that it could be scraped away. This was hurriedly done and the operation was rapidly concluded, as the child's pulse ran up to 212 at the operation. The point the speaker wished to emphasize was the necessity of making an exploratory incision under proper aseptic conditions, despite the absence of symptoms, as twenty-hours' delay might make a decided difference in the prognosis of the case. The patient was doing nicely, with a normal pulse and temperature, a week after the operation.

Gangrene Following the Use of Stovaine as a Local Anesthetic.

Dr. D. A. Sinclair showed a case of gangrene of the skin of the penis following the use of stovaine as a local anesthetic for circumcision. This was one of four cases on which stovaine had been used. The strength of the solution was 2 per cent. In one instance a simple meatotomy was performed, and only ten minims of a 2 per cent. solution were used. The patient complained of a sensation of sickness and nausea in the stomach, and as fainting was imminent, had to be placed in the prone position. This case, at the end of a week, showed gangrene of the glans penis at the site of injection of the stovaine. The two following cases were circumcisions. The patients were both strong, healthy individuals; the first experienced pain during the stitching process, but did not feel faint or sick. The second, a strong, healthy young man, about thirty years old, weighing about 190 pounds, was stovainized with a 2 per cent. solution also, and he complained of pain from stitching at the latter half of this process, and after the operation was completed complained of severe nausea and sickness in the stomach, and syncope was imminent, and he had to be placed in the prone position. These two cases showed a gangrenous area almost identical, the gangrenous process extending along the skin of the penis at some points a quarter of an inch, at others up to three-quarters of an inch at least, and although the operations were performed about a month ago, the patients have not as yet recovered. The conclusions of the speaker were that stovaine is not as efficacious as cocaine in its anesthetizing effect, and is as toxic as cocaine; produced gangrene when used in this strength, and is consequently a most dangerous drug. He had used it in a case of ischio-rectal abscess, and the man complained most bitterly of pain, claiming that he felt every step of the operation.

Dr. Earle Connor read the paper of the evening, which was entitled:

Inflammation of the Optic Nerve Due to Alcohol and Tobacco Poisoning.

He said that inflammation of the optic nerve due to alcohol or tobacco poisoning, or both, may be acute or chronic. The acute cases are the result of the ingestion of an overdose of the poison. The symptoms are a rapid reduction of the visual acuity, even to light perception only, within a few days. Vision is subject to variation, and partial recovery may precede permanent blindness. The ophthalmoscope shows a congested nerve head, with blurred edges, dilated veins and perhaps some small hemorrhages. Prognosis is usually bad, but a useful degree of vision may follow early and persistently energetic treatment.

The chronic form yields to abstinence from the exciting cause. There is variation in vision, and the prognosis depends on the early recognition of the disease, so that the inflammation may be checked in its incipiency. The pathologic changes in the chronic cases he thought degenerative, but said that differences of opinion existed regarding this point. Prognosis is good in the first attack, but proportionately less so in recurrent attacks.

Treatment consists in total abstinence from the toxic agents known to produce the disease. Active diaphoresis assists in the elimination of the poison. Strychnia pushed to the limit of toleration is probably the best remedy, and the iodides are of value in stimulating the absorption of exudates. Plenty of sleep and fresh air, good food and proper exercise are also necessary.

Dr. McAuliffe said that he thought

the optic nerves were affected more by pipe smoking than by any other form of tobacco. He had seen one patient in whom this condition had been produced by cigarette smoking.

Dr. Perry Hough said that he wished to emphasize the fact that a slight amount of alcohol would keep up the inflammation of these nerves. The patient may have been abstaining absolutely from alcohol, and have been treated with strychnia and hydriodic acid, with marked improvement, and he will return to the doctor with a decided relapse, and questioning will reveal the fact that he has had one or two drinks. The patient must abstain absolutely from the exciting cause, if there is to be any permanent improvement.

THE CINCINNATI SOCIETY FOR MEDICAL RESEARCH.

Meeting of January 19, 1905.

The Society held its meeting in the laboratory of the Cincinnati Hospital. There was a good attendance. The President, Dr. D. I. Wolfstein, was in the chair.

This was the occasion of the annual election of officers, and the following were chosen:

President—Dr. Samuel Iglauer.

Vice-President—Dr. H. J. Whitacre.

Secretary-Treasurer—Dr. J. Henry Schroeder.

Executive Committee—Dr. Carl Hiller and Dr. S. P. Kramer.

The first paper read was entitled

Myoma Cutis.

Drs. M. L. Heidingsfeld and A. J. Markley demonstrated from lantern slides two well-defined cases of myoma cutis, which, as far as their investigations permit them to ascertain, complete a total of eighteen cases thus far reported in the literature. The first case presented a lesion the size of a hazel-nut near the right knee, which followed a fall from a bicycle eight years ago; there was an ecchymosis the size of a silver dollar immediately following the fall, and the central area took on an elevated character of circumscribed nature, deep bluish red in color, somewhat compressible, exceedingly painful in character, showing a slight degree of steady and permanent enlargement, and first diagnosed as an angioma. The extremely painful character of the lesion induced its removal; the slightest pressure or irritation, even the pressure of the pants leg, caused severe discomfort and at times excruciating pain. The pathologic examination revealed an angioma in the superficial layers of the skin, whereas the central and deeper area of the tumor consisted of an irregular extensive mass of involuntary muscular tissue. The arrectores of the hair follicles at the periphery of the tumor showed lobular hypertrophy, and gave evidence that the origin of the tumor was from the arrectores pili.

The second case was obtained from a case of linear nevus, and therefore of a congenital nature, in a young girl eleven years old. The lesions were of multiform character, and showed a variety of pathologic changes. The myomatous lesions were smooth, firm, slightly elevated, nonpainful in character. The mass of the lesion consisted of irregular interweaving bundles of involuntary muscular fibres, with characteristic and well-preserved elliptical and rod-shaped nuclei and fibrillated protoplasm. Continuity with the hypertrophied muscular coats of the blood-vessels could be readily traced, and the origin in this case from these structures could be readily inferred.

The diagnoses of these cases depend almost exclusively upon the pathologic examination, and the condition is probably much more frequent than the limited cases in the literature would lead us to infer.

The second paper of the evening was entitled

An Attempt to Relieve Atrophic Rhinitis by a New Operation,

by Dr. S. Iglauer. He reviewed the pathology of the disease and named the various theories as to its cause, none of which, however, are well established. All therapeutic measures aim at two goals (*a*) the cleansing of the nose with antiseptic douches; (*b*) the stimulation to the nasal mucosa. Up to present time no cure has been found.

A patient was presented upon whom the doctor had made a small opening through the hard palate into the nose. Into this opening he had introduced a small silver tube, oro-nasal tube, about one inch long, and the patient has worn it since November last with some brief intermissions. It has now been in place for ten weeks past. Through this tube the patient forces saliva into the nose. This serves to cleanse the nose of the very annoying crusts, and at the same time being a foreign secretion stimulates the nasal mucosa. At the same time a new flora is introduced into the nose which may crowd out the bacteria causing the disease. As a result of this treatment the patient reports fewer crusts on the operated side, and these are less tenacious than formerly. The pharynx is not as dry as heretofore, and he has a better sense of smell and taste. There is no discomfort from the tube. The mucous membrane has a healthier hue than formerly. It will require time to determine the true value of the operation. (This paper will be published in full later.)

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, FEBRUARY 4, 1905.

WORK AS A REMEDY FOR NEURASTHENIA.

It has long been recognized by neurologists that for a considerable period previous to the onset of the well-known symptoms of neurasthenia, it will have been found in a large majority of cases that there has existed a stage of worry, or at least a tendency to overestimate what to an ordinary normal mind would be the trivial affairs of every-day life. This condition of mind, called worry for want of a better name, will in the most sane bring about in time a state of restlessness, even unhappiness, that approaches dangerously near the borderland of actual disease. To these individuals this dolorous pondering upon unimportant details soon becomes most real, and brings on a state of brain-fag that should be carefully distinguished from that mental or physical fatigue so often observed after hard and prolonged labor. Indeed, the idea is gaining credence among not a few neurologists that neurasthenia is partly, and, among the more radical, wholly psychical. At any rate, it is a matter of frequent observation that this condition of brain-tire is often induced merely by the anticipation of any work to be done, however slight.

Contemplation of these facts determined H. J. Hall to use systematic and so-called non-anticipatory work as a practical means of treatment, and by him was founded the School of Handicraft as a therapeutic resource in neurasthenia and allied affections. As a preliminary precaution eye-strain and kindred sources of fatigue are corrected as far as possible. The patient is then required to keep to his bed at absolute rest for a few days, or, in some advanced cases, as long as a week. Some trivial task is then required of him, suddenly, immediately and without ability of anticipation on his part; it may be no more than the sitting up in bed. This is followed each day by a longer and longer programme, which the nurse in charge is directed to carry out to the letter. Variety in the task assigned is the principal part of the treatment, unless it is a gradual shortening of the hours of rest and an equally gradual lengthening of the hours of labor, for it is by this variety, experience shows, that anticipatory fatigue and worry become almost entirely dissipated. By degrees the patient takes an interest in his work, so that the need of prolonged rest is no longer required. Pottery, basket-making and weaving are the handicrafts taught, and in time the patients look with pride and satisfaction upon their work, with a more or less forgetfulness of self, which, after all, is the end sought for in the treatment of these diseases. The patient is stimulated to good work as the product of his labor is sold and he is credited with the proceeds. While this plan of treatment is in the stage of infancy, so to speak, it has produced the most happy results, results well calculated to warrant future and more persistent application. By its aid it is hoped, and the hope is reasonably certain of fulfillment, that many unfortunates can be restored to a life of usefulness to themselves and to those about them.

THE USE OF SULPHATE OF COPPER.

Copper sulphate has for a number of years occupied in sanitary science a rather unusual and precarious position, in that its value has been held in different estimation among various sanitarians. With the hope of reconciling the different opinions, or of placing the subject upon a scientific basis, Doty, New York's very efficient Health Officer, began last year a series of experiments at the New York Quarantine Station, with a view of covering the following points: (1) The use of copper alone or in combination with lime, for the destruction of mosquito larvæ; (2) as a deodorant; (3) as a disinfectant.

Without going into the experiments in detail, it is sufficient to say that for the destruction of mosquito larvæ and as a deodorant, the use of copper in combination with lime is more effective than when used alone. The mixture destroys the larvæ of the mosquitoes by removing rapidly from the water in which they are contained, the nourishment—that is to say, the organic matter upon which they live. There is no toxic action, but a deprivation of nourishment by means of a chemical and mechanical combination with the organic matter present, which latter is carried down with the precipitate. Consequently the value of these agents, either alone or combined, for the destruction of
mosquito larvæ is more or less lim
Where there are bodies of water cov
large areas and where there is being
stantly added fresh supplies of wate
organic matter, the mixtures are h
practicable, in that constant replenish
of the solutions would be needed to o
any tangible results. But where the
has become stagnant and offensive
contains mosquito larvæ in large num
the copper and lime mixture is o
greatest value, in that, in addition to
ing the larvæ, it acts as a deodorant.
believes, however, that in places
but little sunlight is allowed to
petroleum is superior to anything we
have, not only in causing the destru
of the larvæ, but also in driving awa
winged insects. He is especially emp
in his statements that these various
stances, the copper sulphate-lime mi
and the petroleum, are only to be
when it is impossible to carry out
modern sanitary science has taught
be the best method of eliminating
quitoes—thorough and proper drai
The experiments with the copper and
mixture as a deodorant indicate that
one of the most valuable agents th
have for this purpose. It acts rapidl
action is permanent and effectual,
harmless, cheap and easily made, wh
is just as efficacious in deodorizing
as liquids. As regards the third po
of the experiment, the germicidal
of copper, but little more than the
liminary work has been done. How
Doty hopes that valuable inform
will soon be forthcoming.

EDITORIAL NOTES.

Cincinnati Medical Library A
ciation.—In our account last wee
the meeting of this association the r
of the Treasurer, Dr. Wm. H. Crane,
accidentally omitted. His report w
follows:

RECEIPTS.	
Collected from members	$ 883.00
Gift (anonymous)	500.00
Total	1,383.00

EXPENDITURES.	
Type-writer and supplies	97.50
Library bureau	60.85
Salary	345 00
Telephone	28.40
Subscriptions	141.62
To Ass. Med. Librarians	15 00
Other expenses	71.16
Periodicals from special fund	409.00
Total	1,168.00

Balance on hand $214.47, of which $91.00 is credited to special gift fund.

Dr. A. J. Ochsner, of Chicago, will deliver the annual address before the Ohio Valley Medical Association, which holds its next annual meeting at Henderson, Ky., November 8 and 9.

Report of the Bureau of Infectious and Contagious Diseases for the week ending January 27, 1905:

Disease.	Cases.	Deaths.
Measles	1	0
Diphtheria	7	0
Scarlet Fever	11	0
Typhoid Fever	25	3

WANTED—To sell office outfit, drugs, horse, buggy, etc., with introduction to a splendid practice and a good town of 1,500, for $700. Chattels well worth amount asked. Introduction free. Good reasons for selling. Address Lancet-Clinic.

F. W. LANGDON, M.D. Nervous and Mental Diseases. D. I. WOLFSTEIN, M.D.

Acute Hallucinatory Insanity of Traumatic Origin.

Drapes (*Journal of Mental Science*, July, 1904) gives an extended description of a case. It is remarkable for the evidently established connection with the trauma, and the connected character of the hallucination. They were extremely vivid and coherent, and made such a strong impression that they remained fresh in the patient's memory five months after. They were as real as dreams, but occurred whilst the patient was broadly awake, and again were different, in that dreams never, or rarely, incite to action, whilst here striking displays of motorial activity occurred on several occasions.

Interesting, as furnishing ground for favorable prognosis, was the fact that a lucid interval was observed every day, replacing the periods of hallucinatory excitement.

Drapes conjectures as to the nature of the lesion which could cause such a peculiar derangement. He excludes concussion, of which he had thought at first. There were present gravescent headache, with a certain amount of hyperacusis (this, too, in a patient who had always been slightly deaf), slight paretic phenomena early, viz., drooping of eyelid and face and slight dragging of leg, muscular twitchings, irregular pulse and insomnia. The primary physical symptoms were followed about two to three weeks later by the mental; hence, Drapes pictures the lesion as a circumscribed meningeal inflammation, which later involved, but not very deeply, the underlying cortex.

Drapes further discusses most interestingly the bearing of his case upon the nature of consciousness, of personality. Human consciousness formerly was considered as a sort of essence, single and individual, pervading our whole being.

Wherever psychology postulates consciousness, the ego or personality as the sum of a vast number of separate consciousnesses, the sum of which is general consciousness. Thus consciousness is a reaction to outward impressions, is the outcome of objective and subjective consciousness, and instead of being changeless and undeviating, is in reality never the same for any two consecutive periods of time.

Each new phase of consciousness awakens memories of innumerable past states, and the new phase, more or less vivid, tends by repetition to become automatic or reflex. Drapes believes in what has been termed the stratification of the mental faculties, and with various levels are associated corresponding states of consciousness, *i.e.*, personality. The highest level holds in control subordinate or lower levels of consciousness. These conscious states become the dominant states when higher levels are rendered inoperative by lesions of various nature. There may be any number of different personalities, and for every stage of descent in the process of dissolution there is a different consciousness or personality. Sleep, healthy and dreamless sleep, is defined as sopor in all levels ordinarily attended with consciousness. "*Le sommeil general est l'ensemble des sommeils particuliers.*" Dreams are the persistence of activity in one or more levels, whilst the others are temporarily inactive, due to the activity of subordinate *centres*, relieved from the control of those above them.

Hallucinations in Drapes' case were explained by the same hypothesis. The higher centres were rendered inoperative by the circumscribed meningitis, and the lower ones "let go." The vividness of the hallucinations were explained by the supposed irritative effect of the neighboring lesions. Drapes' idea of the origin of the delusions of persecution, plotting conspiracy against life or property, so common in all forms of insanity, is ingenious. The mental ground common to the race is much the same in all beings, insanity being merely a reduction from a higher to a lower level of consciousness, degradation of personality.

The basic state of these delusions is fear and suspicion, dating back from long forgotten, but inherited ancestral experiences accompanying human evolution. With the extinction of activity of the higher, but more recently evolved and superimposed cortical levels, there will be a revivification of these more primordial states, which in proportion as the control of the upper levels is removed, permits them to emerge into the foreground from the depths of our psychic life. D. I. W.

General Paralysis and Crime.

Jno. Baker (*Journal of Mental Science*, July, 1904).

There is a small percentage of cases where general paralytics show criminal tendencies. Some excellently recorded cases are cited to show this relationship. In such cases the crimes were committed early in the onset of the disease before the somatic symptoms had presented. The crime was associated with and was the
outcome of melancholic condition
states, and were homicidal in nature.

The tendency to suicide is not ma
being probably inconsistent with
optimism and egotism so characteris
the general paralytic. Delusions of per
tion were always present in these c
This invasion period of melancholi
persecutory mental disorder Baker
as the initial stage of a later dementia
considers them sufficiently fixed and
tematized—not fickle, and inconstan
cause resolute and purposive homi
acts.

The victims were usually the offs
of the destroyer. Baker objects to
phrase "homicidal impulse" as appli
criminal acts—impulse meaning m
force suddenly liberated, and as sud
transformed into action. There is not
sudden about these acts of violence.
thought of violence when it projects
into the mind rarely leads to imme
action, but grows with the growth c
sanity, and requires time for develop
to its full intensity. They are, in
usually foreseen and feared by the
tient — indeed, fill him with hor
and there is a constant struggle bet
them and the remnant of the pat
weakened volition. The affective
in such patients is usually a very s
one.

Sexual offenses Baker attribute
stimulation of the genital sense, here
hol playing a principal part. He q
illustrative cases where sexual off
were committed and conviction foll
for crime, which were afterwards foll
by typical dementia.

The thieving propensities of the
ralytics may be ascribed in great me
to reversion by a process of dissolutio
conditions similar to those of child
wherein the acquisitive tendencies
a prominent feature of mental acti
The instinct of acquisition is up
most, and is not yet held in chec
those higher inhibitory intellectual
volitional processes which develop
and fit the individual into our s
sphere.

In the paralytic this cortical supers
ture melts away under the influence o
destructive process in the inverse ord
acquirement, the highest and latest d
oped disappearing first.

Baker, in fact, thinks that general

ralysis gives a replica of childhood not paralleled in any other form of insanity.

D. I. W.

The Psychology of Hullucination.

W. H. B. Stoddart (*Journal Medical Science*, October, 1904) calls attention to the points of dissimilarity between percepts, ideas, illusions and hallucinations. Their points of resemblance are psychological, their points of difference are mainly physiological.

Perception and ideation localize an object and give it a shape occupying a certain amount of space. Percepts and ideas are in reality only abstractions. The study of perception is therefore in reality but little more than the study of perception of space.

In the visual domain, *e.g.*, the most obvious difference between perception, ideation, illusion and hallucination, is that while in perception and illusion there is a stimulus to the peripheral sense-organ (retina), in ideaation and hallucination there is no such stimulus. In perception and illusion the stimulus to the angular gyrus arrives by the way of the optic radiations, occipital lobe, and occipito-angular association fibres; in ideation and hallucination the stimulus reaches it by way of other association fibres than the occipito-angular bundle. This is evidenced by the existence of visual hallucination in the blind, auditory hallucination in the deaf, etc. In the visual hallucination there is a negative as well as a positive side to the process. The positive side is the seeing of the hallucination image; the negative side failure to see neighboring objects. The interpretation of the negative part is that the neurons which normally conduct sensations from the retina are dissociated from each other. The positive side of the hallucination process is due to stimuli reaching the centre by way of association fibres other than those by which sensations are transmitted from the peripheral sense-organ.

Absence of sensations of other modalities than that affected favors the hallucinated state. The absence of other stimuli allows the affected sensory area to dominate consciousness. Hallucination depends, then, upon two factors, diminution of sensation and disturbance of association, which factors are of variable prominence.

Head has recorded cases in which hallucination was associated with the pain of visceral disease. Presuming that there was no anesthesia in these cases, Stoddart suggests that the continued painful sensations spread by way of association fibres to distant sensory areas of the cortex, giving rise to visual, auditory and other hallucination.

Charts are given showing marked analgesic areas of the disturbance (and therefore presumably anesthetic) in the insane. Stoddart suggests that epigastric and other allied sensations arise in those cases in which, owing to some affection of the cerebral cortex, there is some loss of sensation. Consciousness does not exist in the absence of sensation. When, therefore, any considerable part of the body is anesthetic, consciousness is dependent on the sensitive remainder.

The sensitive remainder dominates consciousness, has "greatness thrust upon it." In the epigastric aura of epilepsy Stoddart reasons as follows. Loss of consciousness is the first symptom. It is said all sensation is lost because of the unconsciousness, but Stoddart thinks the patient becomes unconscious because he has lost all sensation. He suggests that the sensory defect begins at the periphery (arms and legs) and allows the epigastric sensitive remainder to dominate consciousness; hence, the aura.

The last event as the patient falls is the loss of epigastric sensation. The neural interpretion is the dissociation of neurons between the peripheral sense-organ and the cortical sensory centre.

In conclusion, Stoddart compares perception, ideation, illusion and hallucination with regard to the manner in which in each process the cortical centre is stimulated. In perception stimulus is transmitted from the periphery; there is neither *transcortical* association nor peripheral dissociation.

In ideation the centre is stimulated by way of association fibres, but, again, there is no dissociation from the periphery. In illusion the centre is stimulated on the one hand by way of association fibres, and on the other from the periphery. The physiological difference between ideation and illusion is this, that the peripheral stimulus *does not interfere with* ideation, but that is *necessary* to illusion.

In hallucination there is transcortical association and peripheral dissocation. It differs essentially from perception, ideation and illusion, in that the essential factor of hallucination is its negative factor. D. I. W.

Note on Social Causes of Alcoholism.

W. C. Sullivan (*Journal of Mental Science*, Vol. L, No. 120, July, 1904).

We cannot better review this very able and interesting article than to give the writer's summary in his own words:

1. In considering the social causes of intemperance, which are by far the most important, it is necessary to distinguish two opposed types of drinking, viz., the drinking that goes with conditions of relaxative luxury, and finds its most frequent expression in ordinary convivial drinking, and the drinking that goes with conditions of relative misery, of which bad industrial circumstances are the most considerable factor.

2. Convivial drinking may, and often does, lead to drunkenness, but, at least in its pure form, does not tend very much to chronic alcoholism. Industrial drinking, on the other hand, while leading also, though less immediately, to drunkenness, tends rapidly and fatally to chronic intoxication.

3. From a statistical point of view, therefore, while chronic alcoholism always implies the existence of drunkenness, drunkenness by no means implies the existence of chronic alcoholism. In England this divergence between the two phenomena is best seen in the prosperous mining districts, which, by reason of their prosperity, are at once more drunken, but less alcoholic, than any other part of the country.

4. The graver social evils that are in any important degree caused by alcohol are related to the chronic intoxication, and are, therefore, mainly due to industrial drinking.

5. While educational, religious and similar influences can control the excesses of convivial drinking, they have but little action on industrial alcoholism, which can only be checked by raising the standing of living, and, in a minor degree, by such methods as restricting the facilities for obtaining alcohol during work hours, providing hygienic substitutes, and so forth. D. I. W.

Surgery.

P. S. CONNER, M.D.
J. C. OLIVER, M.D.
H. J. WHITACRE, M.D.
H. A. INGALLS, M. D.

Witzel's Method for High Amputation of the Rectum.

Hofmann (*Zentralblatt f. Chirurgie*, November 12, 1904) speaks in very high terms of the efficiency of the Witzel operation. He believes that the majority of surgeons to-day advocate resection of the rectum in carcinoma rather than amputation, for the reason that the sphincter ani and its function are retained in the former operation. The retention of the function would seem to distinctly and clearly determine the question. The mere retention of the sphincter is not sufficient, however, to insure its functional value. The innervation of this muscle must likewise be preserved, and without the innervation the functional result will not be obtained. As a matter of fact, the sphincter function, after resection, is seldom satisfactory. Another objection to the operation of resection is the frequent occurrence of fecal fistulæ in the posterior portion of the reunited gut. A third objection is the impossibility of doing an aseptic operation, since the wound is certain to be contaminated. A fourth objection is greater hemorrhage in the operation of resection.

The operation of Witzel is briefly described. Resection of the sacrum gives free exposure of the rectum. If the tumor has already invaded the posterior fascia-propria or on further dissection the fascia planes anteriorly are involved and the opening of the peritoneum in the recto-vesical cul-de-sac is difficult or impossible, the operation should be abandoned. The tumor is inoperable, and only a palliative procedure should be considered. If conditions are favorable for a radical operation, the anal portion is cut around the hemorrhoidal arteries; inferior median and superior are ligated and the dissection freeing the rectum is continued. As a preliminary step in the operation a sponge should be introduced into the anal opening and carefully sewed over. The rectum is divided under very aseptic precautions with Paquelin's cautery. The formation of a gluteal anus by drawing the stump through a lateral button-hole in the left buttock completes the operation.

Hofmann considers the method to be anatomically correct, and has had most excellent results in a great number of cases. When the operation is uncomplicated the results are almost constant, yet many difficulties arise, particularly gangrene of the bowel. The author has modified the operation somewhat, in that the mucous membrane of the rectal stump is not united to the skin surface, but is fixed, two fingers' breadth below the skin surface, in a median location. The wound cavity is packed with the tampon and is allowed to granulate. In about three weeks the granulating wound is covered over with epithelium. The new anal opening lies only somewhat higher up than formerly, and a very satisfactory continence is aided materially by the contraction of the strong gluteals. Only the watery stools sometimes cause trouble.

H. J. W.

Sudden Death, Especially from Embolism Following Surgical Intervention.

Byron Robinson (*Medical Record*, January 14, 1905) subjects the causes of sudden death to an exhaustive analysis, and then describes nineteen illustrative cases. A large proportion of the instances of sudden death are due to embolism, usually through invasion of a vegetative centre in the floor of the fourth ventricle, or through asphyxia, caused by embolic lodgment in the pulmonary artery. The operations most often followed by embolism are those for appendicitis, hemorrhoids, hernia and pelvic diseases, and on the kidney, prostate and bladder. Prophylaxis includes placing the patient in as perfect a condition of physiological and anatomical rest as possible, several days before the operation, and by a complete evacuation (a dozen movements), of the intestinal tract, and flushing of the kidney by giving eight ounces of half decinormal salt solution, every two hours, six times a day. With these two systems drained to a maximum, the patient can be placed in the most perfect state of physiological and anatomical rest, which is the safest condition for any surgical intervention, and is a prophylactic against embolism. Such a state withstands to the highest degree the trauma of anesthesia, shock, peritonitis, infectious invasions, nephritis, pneumonia and embolus.

H. A. I.

Overlapping the Aponeurosis in the Closure of Wounds in the Abdominal Wall

Noble (*Medical News*, December 17, 1904) calls attention to the value of overlapping the aponeurosis in closing wounds in the abdominal wall. He states that it is now a generally received principle that the proper closure of incisions in the abdominal wall involves the union of homologous structures, and that this is best secured by the tier sutures. He believes that the union of the aponeurosis edge to edge is certain to make a weak line of union, and therefore overlaps the fascia from one-third to one-half inch as a routine method. He believes that hernia will occur infrequently after this method of closure. He reports 1,150 cases in which the abdominal wound was closed by this method, and only three cases of hernia are known to have occurred. The application of the method is simple. The fascia is freed from fat, then a continuous medium-weight chromicized catgut suture is used. The suture is passed through the aponeurosis on one side after the manner of the Lembert intestinal suture, then from below upward through the aponeurosis on the opposite side.

H. J. W.

Infections of the Gall-Bladder.

T. W. Harvey (*Medical Record*, January 14, 1905) takes as a text a case of biliary calculi, with a stone in the common duct successfully treated by removal of the gall-stones and drainage of the gall-bladder, and discusses the subject of cholecystitis in its relation to the formation of gall stones and as a source of abdominal symptoms in general. Infections of the gall-bladder may be innocent to start with, but always involve danger of serious secondary lesions such as pancreatitis, malignant disease of the biliary passages, and even, in the author's opinion, cirrhosis of the liver. The differential diagnosis is often difficult and the possibility of confusion of appendicular and biliary inflammation must always be kept in mind. There is no doubt of the possibility of spontaneous cure, for latency is the rule where infection of the gall-bladder has gone on to the formation of gall-stones. Attacks of biliary colic may be cured by the expulsion of the stone, and even when complete obstruction occurs, ulceration and perforation into the intestine may give free outlet to the bile, and cause the symptoms to subside, but this is a matter of chance. Infections of the gall-bladder are surgical diseases, and if we are to treat them rationally we must treat them surgically. This treatment consists in incision and drainage of the gall-bladder, or in its complete extirpation. The gall bladder is a relic of bygone times, when conditions of life permitted meals only at long and irregular intervals, and having passed the epoch when it is essential to the body, the organ should be sacrificed early, when it is the seat of infection, owing to the liability to dangerous developments later.

H. A. I.

Otology.

C. R. HOLMES, M.D.

Death Occurring During Chloroform Anesthesia.

F. A. Simmons (*N. Y. Med. Journal*, August 27, 1904) reports the case of a boy, aged ten years, who came into the hospital suffering from general muscular twitchings and presenting a typical adenoid facies. Upon examination enormously hypertrophied tonsils and numerous adenoid vegetations on the pharyngeal walls were found. The chest was flat and presented large costo-sternal nodules. The extremities of the long bones were somewhat enlarged. On auscultation of the lungs a few bronchial râles were noted. The heart was absolutely normal. There was a long, tight prepuce and a cold moist penis. Circumcision and removal of adenoids and tonsils was undertaken. The anesthetic was well taken. Circumcision was rapidly performed and the anesthetic discontinued. The adenoids and tonsils were then removed with the head lowered. At the last stroke of the curette the pulse suddenly failed, the face became cyanosed and respiration ceased. Notwithstanding all efforts, continued for forty-five minutes, the patient failed to revive. Autopsy showed extreme general venous engorgement, deep injection of the vessels of the brain and occasional adhesions between the dura and pia. On the left hemisphere, over the motor area, for a space of about two inches, were numerous scattered tubercles; otherwise the brain was normal. A large, deeply congested thymus gland, measuring two by three inches, was found. The lungs were normal. The pericardium contained three-quarters of an ounce of fluid. The heart was normal and empty, having stopped in systole. Bronchial lymph glands somewhat enlarged. Abdominal organs normal except that the spleen was deeply congested. The case was evidently one of status lymphaticus.

Phonographic Acoumeter.

W. Sohier Bryant, New York (*Archives of Otology*, October, 1904), demonstrated to the American Otological Society his phonographic acoumeter. It consists of an Edison standard phonograph enclosed in a sound-proof box made of sheet lead from which a rubber tube leads the sound out to the ears of the patient. A dial gives the proportionate amount of sound reaching the patient's ears. The voice produced by the machine has a constant intensity and pitch, the intensity being under accurate control of the operator, who can modulate it from the loudness of the voice when a speaking tube is used down to zero. It also provides a sure method of detecting simulated deafness. When the malingerer feigns deafness in only one ear, the three way valve, turning the sound on and off for the ears, rapidly alternating or simultaneously, distracts the patient and prevents replies consistent with any considerable degree of real deafness. The machine also allows the detection of slight degrees of deafness, a matter of much importance in progressive deafness. It gives accurate tests of the quantity of hyperacusis when it is present. It is an excellent instrument for giving massage by means of sound vibrations, furnishing the kind of passive motion to which the ear is normally most called upon to respond.

The Lancet-Clinic

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HOW SANITATION MAY BE MADE EFFECTIVE.*

BY HENRY G. GRAHAM, M.D.,
CHICAGO, ILL.

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We do not consider it worth while to go looking for the cause of disease without first arming ourselves with a compound glass lens, unless, indeed, we expect to catch the cause on the wing. If, however, we will but look in the right place we shall find that while an artificial lens is convenient, it is not essential to successfully locating the cause of disease. The unaided eye may without the assistance of a single additional lens detect when danger in the form of disease lurks near. In a threatened outbreak it may even determine the form the disease is liable to assume and may anticipate its coming.

With the aid of the microscope the prognostications may be made quite elaborate, and made to attain a wonderful degree of accuracy. This depends upon the fact that the various organisms found in the tissues of the body in diseased conditions may be reproduced outside the body, and those so reproduced are usually finer specimens of their respective species than are to be found among the parasitic forms.

Not only can a predominant form associated with a given disease be reproduced in this manner, but the outline of the parent body from which this form is derived may be so preserved intact and the endoplast may retain its relative position, making identification of the parent possible. Thus it is demonstrated not only that a given bacterium is derived from an infusorian, but the species to which the latter belongs is determined. This being true, it is possible to tell in this way what disease a given infusorian may cause.

We may go still further and predict with a fair degree of certainty what form the next generation to be derived from the nucleus of the parent body is liable to assume six months hence. In the same way the form to be derived from the nucleolus, or the third generation of a still later period, may be anticipated.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11-13, 1904.

Thus it can be shown that the first form that may be given off by an animalcule upon its reaching the tissues of the body will be a pneumococcus; the second form, which may be expected to appear in from three to six months, will be a tubercle bacillus; while the third form is liable to be a streptococcus. The pneumococcus, then, would be derived from that portion of the zooid lying beyond the endoplast, the tubercle bacillus from the nucleus or endoplast, and the streptococcus from the nucleolus or endoplastule. If the zooid had rolled itself into a sphere, as when it becomes encysted, on section at an equatorial diameter, with a circle describing the boundary wall of zooid, endoplast and endoplastule respectively, the pneumococcus would lie within the outer, the tubercle bacillus within the middle, and the streptococcus within the inner of the three concentric circles, assuming that the two outer zones remained intact until the bodies of the inner zone had formed.

It will be observed that the forms here designated pneumococcus, tubercle bacillus and streptococcus are derived not only from the same species, but from the same individual. They develop in the order named from the outer zone of the zooid lying beyond the endoplast, the tubercle bacillus, as already stated, from the endoplast and the streptococcus from the endoplastule, after these two bodies of the original zooid that produced the pneumococcus had themselves developed into zooids with an endoplast and endoplastule of their own. That is to say, not only are the pneumococcus, tubercle bacillus and streptococcus derived from a single species and single individual, but they have their origin in the same relative part of the individual.

Their morphology as well as their origin shows that these three forms are simply modifications of each other. In its simplest form the pneumococcus is a diplococcus when only two bodies are united instead of a chain of bodies, as in the streptococcus. In its granular form the tubercle bacillus consists of three or four to five or six or more such bodies more firmly united than in the streptococcus, while in its earliest state the tubercle bacillus appears as a plain rod without any differential markings whatever. Without these markings appearing, the tubercle bacillus may grow to an enormous length, while at the same time increasing its every other dimension. If growing in water, it now forms an alga, and with the other filaments produced from the same endoplast it forms a ray fungus. If each filament of the rayed body is terminally clavate, we now have an enormous actinomyces, actinomycosis being a form of tuberculosis, in which the tubercle bacilli have attained an enormous size and have therefore long since lost their staining property.

In the lungs, in pulmonary consumption, these filaments are of small and of uniform diameter, and are seen as "elastic fibres."

Experiments upon animals prove that the infusoria enter the alimentary tract, and as free-swimming animalcules penetrate the mucous membrane, thus effecting lodgment in the diseased area of the endoplast from which the ray fungus springs. Since traumatism of the mucous membrane aids such penetration, we should expect to find a large percentage of the cases of actinomycosis to have had their origin in the *cactus* belt.

From the club-shaped extremity of the filament, in running water the young would escape as so many independent free swimming animalcules; in the blood these would be merely plasmodia; under the most unfavorable conditions there would be no expanded portion, but only a spore, or at most a sporular body would occupy the extreme end of the filament.

Those enumerated are only a few of the forms that a streptococcus, a tubercle bacillus or a plasmodium may assume as a protozoan rounds out its life cycle, which includes these and a great diversity of other forms. These range from the round zooid in the process of encystment up to the very long filament or alga of boggy waters, already mentioned, and in size from the molecula that is just visible under the highest powers of the microscope to the large mass of filaments or ray fungus that increases many fold its size after it first becomes visible to the unaided eye.

Nor are these forms confined to a single species, but each species of striati infusorian produces its streptococcus, with its many and divergent modifications of form, then forms by easy gradations supplying the connecting link between the vegetable and the animal kingdoms, the filamentous forms approaching the vegetable, and the zooidal forms approaching the animal kingdoms. Such an organism and those of its class may be sought for and found in many places under a great diversity of conditions, and this is the history of infectious disease. The contagium is widely distributed in nature, and it is from nature that man acquires disease; nor need such generalization include the few exceptions that only prove the rule.

The infusorian that enters the alimentary tract, but escape again from it, is not pathogenic. An infusorian, though it enter the blood stream, is not pathogenic if it does not subsequently interfere with some physiological function. An infusorian that finds its way to the blood or to the lymph stream is pathogenic, though it be years in making its presence felt through its interference with some physiological function of a tissue.

Access to the tissues of the body by a pathogenic infusorian is gained as a result of physiological processes on the part of the host or of the invader, or of both. Two principal forms of the invader are concerned in the invasion. One is the actively motile animalcule that may, without any assistance from without, penetrate a mucous membrane. The other is the encysted animalcule that has passed through such a long period of incubation that it is ready to burst its walls when surrounded by the heat and moisture of the body. If bursting of its walls is delayed until the encysted infusorian has reached the blood stream, a large number of bacteria will be suddenly released where only the germicidal properties of the blood can resist the encroachment. This sudden release into the blood stream of the fluid and formed contents from the encysted or the incubating infusorian, or from both, is the cause of the chill, fever, prostration and other accompanying symptoms with which an acute attack of an infusorial disease is ushered in. A chill results when the formed elements, escaping, are motile, and they attack the blood corpuscles. Where the forms so escaping are non-motile, a chill does not seem to occur, though the other symptoms may be unabated.

The rise in temperature takes place immediately after the breaking up of these incubating forms and appears to be due to the detritus resulting from the disintegration of these bodies and to the products resulting from the life processes of the surviving forms invading the various tissues rather than to the mere presence in the tissues of the body of these living forms themselves.

An actively motile form, the life processes in which are active, will produce a disease that is acute; a form that is passive or in which change is so gradual that no change appears to take place at all, will produce a disease that is chronic, while such a form, upon complete infiltration with a mineral substance, as a crystal or crystalline body, will merely form a deposit in a tissue in which it may chance to become lodged.

An example of the first is scarlet fever, of the second tuberculosis, of the third rheumatism. Forms of the same species of infusorian, but that differ widely from each other, may cause scarlet fever, tuberculosis, rheumatism. One of these diseases does not differ more from the others than the free-swimming animalcule differs from its encysted form, in which state it may continue for a time extending over a period of years. And the adult animalcule is more unlike the single chain of lineally disposed larval zooids previous to their escape or expulsion from the long hollow tube that had formed the boundary wall of the undifferentiated filament than the streptococcus is unlike the tubercle bacillus.

It was at one time believed that a protozoon was capable of perpetuating itself practically forever by growth and fission of its own body. It is easily demonstrated that this is an iridescent dream. It necessarily follows that the supposition, which very nearly amounts to an accepted fact, that the streptococcus and the tubercle bacillus, which are merely aggregations of undeveloped zooidal forms, perpetuate these respective forms without limit, must be abandoned.

The highest as well as the lowest and intermediate forms of an infusorian may multiply by fission so many times and may continue to multiply in this manner over so long a period of time that we may well be deceived into believing that there is no end to this mode of propagation of a species. The propagation of a form by fission must be followed, not for days nor months, but for years, when it will be seen that nature has yet put a limit upon this mode of multiplication, and the propagation of the species is continued under a new form, which in turn multiplies b fission. In like manner, form succeeds form, each of which multiplies by fission, until that point in the life cycle of the organism is reached from which the start was made. These facts must be invoked to explain the manner of origin of infectious disease, and they point the way to effective measures of prophylaxis for the individual, for the municipality and for the State.

So long as we look to the person of the last surviving patient of an epidemic, or to his immediate environment, or to the zone of his activities polluted by his sometime presence, or to the area near and remote contaminated directly or indirectly because of such epidemic, we will continue to be surprised by a runner hurrying in from an outpost off in a new direction telling of a fresh outbreak, of which it will be impossible to trace the source.

The first thing to do is to practically ignore the recent epidemic, for the vanishing line marks the bursting of the last remnant of incubating forms of that generation of infusoria responsible for the late scourge. The next wave of disease to sweep over a community will be caused probably not by any forms of infusoria now incubating, but by future generations of protozoa yet to become encysted. To prevent, then, the outbreak of epidemics in the future is to prevent immense numbers of infusoria from becoming encysted in places where these resting bodies may reach large centres of population. Much can be done towards limiting the number of encysted and incubating forms of the infusoria that may find their way into the atmosphere in the immediate vicinity of city, town, village and country-place by the filling in or by the free drainage of low-lying and marshy tracts that support a portion of the most numerous of the animal creation existing upon the surface of the globe, but that poison the air for man.

If it is desired to find what variety of disease threatens a given community at any particular time, this may be done by catching the animalcule in the water supply upon a cover-slip and holding it there until the young will have had time to form upon the site of the parent. These forms being the most numerous of those of the infecting organism to be subsequently found in the tissues, from them is predicted the variety of disease threatened. Thus the formation upon the cover-slip of a streptococcus from the ectoplasm of a zooid would foretell an attack from this form of organism, while if in its stead the tubercle bacillus had formed, we should have grounds for fearing that many susceptible individuals had been insidiously attacked by tuberculosis, not forgetting that those who, through food and drink, acquire the mineral matter with which the tubercle form of infusorian is infiltrated in the formation of the crystal will suffer from rheumatism instead of suffering from tuberculosis. This interrelation of these two diseases explains why there may be rheumatic pains in tuberculosis and why the confirmed rheumatic does not acquire tuberculosis. In the last instance the body that would have produced the tubercle bacillus, and therefore tuberculosis, has become *petrified*. This phenomenon is a very common one in the infusorial world. Crystal formation in the infusoria is very frequent, and the crystals of a given zooid may be its own young that have become petrified, or they may be the corresponding bodies derived from another individual, or species of protozoan that have been ingested as food particles.

When from a potable water we grow upon a cover-slip a streptococcus, we do not in our classification separate one species of organism from all others, for the very next time we may grow a streptococcus which is in every respect similar to the first so far as the powers of the microscope can determine. By culture, however, we may prove that the second streptococcus belongs to a different species of infusorian. Since the life cycle of many species is the same, it happens that a large number of species of infusoria produce a streptococcus. The same is true of the pneumococcus, the tubercle bacillus, etc. This simply means that a large number of species of infusoria are concerned in the production of the infectious disease. As the forms of the infusoria that produce disease may resemble each other so closely that one species cannot at this time be set apart from the others, so the diseases themselves produced by these particular forms cannot be differentiated the one from the other.

To find a streptococcus in the tissues of two persons who are ill does not mean that the same species of organism is the cause of the disease in both instances. What is true of the streptococcus is equally true of the pneumococcus, the tubercle bacillus, the plasmodium and of every parasitic form of an infusorian that it passes through in rounding out its life cycle.

As intimared above, an infusorian, while multiplying itself by fission, is at the same time developing in the direction of that form in its life cycle next succeeding the present form, but before the next succeeding form will have appeared the present form will have multiplied itself by fission so many times, and it will persist in this form for so long a period of time, that we are liable to be deceived into believing the persistent form a distinct and indpendent species. Thus it may require a whole summer to determine whether a given streptococcus will develop into a chain of frustules of a diatom, or whether it will be first transformed into *Scenedesmus quadricaudatus*, which in turn will develop into zooids of *Astasia trichophora*. Meantime, either species will have been propagating itself as a *streptococcus*.

The infectious diseases being caused by the infusoria, these diseases can be prevented to the extent that the development, multiplication and dissemination of the *infusoria* in the vicinity of human habitations can be controlled. Among the measures that may be adapted to this end, and that would prove salutary for the individual and for the community, may be enumerated the following:

1. All fluids intended for drinking purposes should have been recently boiled. This, of course, does not apply to properly preserved distilled nor to pure artesian well water.

2. Food that has just been cooked is *safest*. Milk and fruits and meats *fermented* from the presence of an infusorian should be eschewed.

3. Vegetables, such as celery, lettuce, radishes, etc., should not be served without first cooking after they had long been steeped in water.

4. Drinking cups to which infusoria cling, if water is permitted to stand in them for many hours together, become a source of danger if their surface is not properly cleansed.

5. Vessels of the household should not be permitted to stand unmolested from day to day whose contents may prove to be a culture-medium for infusoria.

6. The contents of such vessels should not be emptied into basements or near human habitations upon loose soil that months after may be deeply stirred.

7. A site high and dry should be selected for a dwelling. Proximity to a swamp should be avoided. Marshes, ponds and stagnant bodies of water should be effectually drained.

8. Basements and rooms with damp walls, affording a surface for the formation of mold upon them, are unhealthful. If such places must be occupied as living-rooms, their walls should be frequently whitewashed.

9. Where distilled water or artesian well water cannot be obtained, or where the water cannot be boiled, there should be filtration of the water supply.

10. The infusoria of consumption being present in the person of the consumptive, these also should be guarded against. Sputum is best collected upon material that can afterwards be conveniently burned.

11. Milk and the flesh from a tuberculous animal are to be avoided.

12. An infusorian, having adapted itself to a given soil, seeks for a time virgin soil with a like environment. If the infusorian has become virulent, the member affected should be isolated from the others of the family. If, instead of being açute, the disease is chronic, isolation may not be advisable.

13. Insects with a musical note or with no note at all, that ply their vocation over the reeking waters of the marsh, about the refuse of the kitchen or upon the dingy walls of bed-rooms, and that press their familiarity at the point of a proboscis, are to be regarded with suspicion.

14. It is well not to inhale the breath passing over a white or gray infusorially infiltrated membrane (diphtheria), to avoid the particles of desquamating cuticle red from the presence within them of the *moleculæ* from protozoa (scarlet fever), and to look out for the flying particles of sputum coughed up.

15. Direct contact with a suppurating or discharging surface should be diligently guarded against.

16. Infusorially laden hides and carcasses of animals should be handled with care.

17. Overcrowding, as sometimes occurs in very populous areas, is to be avoided.

18. An alcove or a porch with one whole

side open to the elements, so constructed that these may be shut out during inclement weather, is the ideal bed-room.

19. In an epidemic, very old buildings in the infected district should be razed to the ground. Their site should be burned over, or should at least be bared to rain and dew and sunshine.

DISCUSSION.

Dr. JOHN PUNTON, Kansas City: I don't feel competent to discuss this very excellent paper. Dr. Graham certainly deserves a great deal of credit for reducing the complex bacteriological side of this question for the general practitioner. It seems to me when these deductions, which he has drawn in his studies, meet their full fruition, we will see great results in the advance of the science of medicine.

THE CHAIR: I would like to ask Dr. Graham a practical question. He says celery and radishes and such things should not be eaten, unless cooked, after they have been a long time in water. What would Dr. Graham consider a safe time to avoid that sort of infusorial propagation?

Dr. GRAHAM, in closing: A long time is a time that will allow the infusoria in the water to grow, whether the water be well water, river water, lake water or any fresh water on the face of the earth. A long time for celery to remain in such water would be sufficient time for the infusoria to swim or grow to the celery, on which they feed and throw out a slimy mass, which could be felt on the celery. That would be a very long time. I think each individual must decide how long the time should be.

ECTOPIC GESTATION—DIAGNOSIS AND CASES.*

BY MAGNUS A. TATE, M.D.,
CINCINNATI,
Lecturer on Anatomy of Pelvic Viscera and Embryology, Miami Medical College; Gynecologist to St. Elizabeth and Speers Memorial Hospitals.

The diagnosis of an ectopic gestation is in one case easy, in another difficult, and in a few impossible to make. My experience and personal observation lead me to say that ectopic pregnancy is diagnosed as often after as before section.

Many a case of pus tube, or other pathological condition, has been diagnosed as an ectopic gestation, and *vice versa*, not by beginners, but by experienced gynecologists.

There are many symptoms that help—in fact, almost make—the diagnosis for us, and again the case is a puzzle not solved until ocular demonstration reveals the true state of affairs.

In a given case a patient comes to consult you as to the existence or non-existence of pregnancy. After a thorough examination you may be able to tell her that she is pregnant, but, unfortunately, the child is outside of the uterus and not in its normal position. In such a case we expect to find a history and symptoms somewhat as follows; the woman who is afflicted with an ectopic pregnancy will generally give the history of some pelvic inflammation, or she has probably had a number of abortions, has been married a long time and sterile, or had a child and then an interval of a number of years intervened before she became pregnant again. Nearly always we get a history of an irregular menstrual period, due in some cases to pelvic inflammation, which in turn may be caused by gonorrhea. Patient may tell you (if she be a multipara) that she has peculiar feelings and sensations not present in her other pregnancies, and that she suspects something wrong. There has been a cessation of the menstrual period once or twice, and shreds, membranes or clots may be passed at irregular intervals. The breasts may or may not be just a little tender, with a slight darkening of the areola. Morning sickness and nausea are sometimes present. A vaginal examination may reveal a discoloration of the vaginal walls, which is of some value if patient be a primipara, otherwise not. The cervix is slightly enlarged, a little softened, and the uterus is softer and enlarged, but not as it should be with a ten weeks' normal gestation. To the right or left of uterus a mass can be felt and often mapped out. To your finger it feels globular in shape, soft, and sometimes we receive the sensation as if it pulsates, so some writers describe it as a pulsating mass. This pulsation, however, is not so diagnostic a feature as we are led to believe.

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* Read at the December meeting of the Kenton and Campbell County (Ky.) Medical Society.

In another case, where the woman did not seek an examination or diagnosis as to her existing condition, the tube becoming over-distended, a rupture of its walls follows. In such a case a diagnosis can very readily be made, provided a satisfactory history is obtainable. This patient has had the ordinary symptoms as enumerated, when, without any warning, a sudden violent pain takes place, located to one or the other side; she usually faints, may drop to the floor as if struck by a heavy blow, and often passes into a state of collapse. The shock may be profound, her pulse intermittent, faint and irregular, cannot be felt at the wrist, and she is now bleeding internally. A vaginal examination at this moment is not so important from a diagnostic standpoint as a clear history; in fact, the presence of pain and muscular contractions are sufficient to make the examination negative. In trying to make this examination the greatest care must be exercised, for fear of exciting more hemorrhage.

There are cases reported where these usual symptoms are not present, and patient suffers from repeated colicky pains for some time before rupture takes place, and then only a temporary and in no way a profound shock follows. If, however, the patient survives the usual shock, later on, when the watery elements of the blood have been absorbed and a clot has formed, some resistance will be offered to the examining finger. Should the patient be free from all inflammatory pelvic disease or growth we may safely say that the mass palpated is clotted blood. Unfortunately, in such a case the hemorrhage may be so profuse that the patient never rallies, unless surgery be resorted to immediately. If by chance nature should stop the hemorrhage, the amount of blood extravasated will depend upon the patient's general pelvic condition and upon shock. Sometimes the whole pelvis is full of clotted blood, the uterus is pushed forward, and the intestines lifted entirely out of the pelvic cavity, so that the abdomen is enlarged.

The blood escaping when the abdomen is opened may carry the small fetus with it, and this accounts for our not being able to find it in some cases. To be absolutely certain that the uterus and mass at its side are separate, the cervix may be gently drawn down by a tenaculum forceps and a thorough examination then made of the mass per rectum.

As a rule, the clotted blood gravitates to Douglas' cul de-sac. This blood extravasated may be followed by a peritonitis. The discharge from the uterus examined microscopically clears up doubtful cases, for placental tissue, decidual cells and chorionic villi can be found.

This discharge may be of such a nature as to be misleading, if the history is not carefully taken and the examination has been superficial; in fact, a diagnosis of abortion has frequently been made and the error not discovered until later, when a mass was felt to the side of uterus.

If the patient is so imprudent as not to seek medical advice until after rupture (the symptoms, etc., which may not have been severe) has occurred, this delicate sac which has formed around the embryo in the abdominal cavity may give way, and the result is generally a terrific hemorrhage, followed by collapse and death.

The tube may enlarge greatly and not rupture. This, however, is not the usual case. If no rupture occurs the fetus dies, absorption of amniotic fluid follows, causing a rapid diminution of size of sac, which is spoken of as almost pathognomonic.

Should the patient go on to full term, the sac formed, having been enforced, becomes strong, and a diagnosis of abdominal pregnancy is now determined by palpation, as we are able to easily feel the child in its abnormal position, and upon auscultation to hear the fetal heart sounds. A vaginal examination reveals a uterus which is small and the growth has pushed it out of its usual position.

Here and there cases are reported where labor pains have set in and the child, having died in the abdomen, becomes changed into a hard chalky mass called a lithopodian, in which condition it may remain for years. Instead of forming a lithopodian, the whole ovum may become infected, break down into pus and necrotic débris. If so, the patient dies of sepsis, or artificial openings are made by nature and portions of the fetus are discharged through neighboring structures, as the bladder, rectum or abdominal wall.

If the history of the case be plain and portions of fetus are being discharged, the diagnosis has long been made before medical aid is sought.

If the case be so fortunate as to rupture and bleed into and below the layers of the broad ligament, we have the extra-peritoneal in contradistinction to the intra-peritoneal variety, as described above.

In the extra-peritoneal form the symptoms are not so severe, the pain is usually paroxysmal, and a vaginal examination is of great importance; the broad ligament is distended, becomes tent-like, the top being at the torn tube, the base at the bottom of the pelvis and the uterus is pushed over to one side. This tumor may be a very tense mass, depending upon the amount of hemorrhage between the broad ligaments.

CASE I.

Mrs. R., aged thirty-one, Ripley, Ohio; referred to me by Dr. Dunlap. Came to Cincinnati to be operated upon for a supposed pelvic abscess, with the following history: Three years ago gave birth to a child, and since that time has not been healthy. Eighteen months ago had a miscarriage at the third month, and has been bed-ridden most of the time since, and for the last three months has had pain throughout the entire pelvic region, especially marked upon defecation and urination.

Patient could hardly walk when brought to the office. Upon questioning, I found that every evening she had fever, chills and a rapid pulse. Upon vaginal examination, the posterior vaginal wall was bulging forward and out like a large fetal head, semi-fluctuant and filled up the whole of the vaginal canal. Upon rectal examination (which was very painful), as high up as the finger could reach this semi-fluctuant mass was felt. Patient was removed to St. Mary's Hospital for operation, and I fully concurred with the diagnosis as given by her family physician, that she was suffering from a pelvic abscess.

Operation.—A transverse incision was nade into Douglas' cul de-sac, and instead f getting purulent fluid, as expected, hick clotted blood welled out of the openng, bringing with it many shreds of placenta. Uneventful recovery followed, and in six weeks the patient left for home.

CASE II.

Mrs. M., aged thirty-eight, mother of six children, the last born ten years ago. She entered St. Mary's Hospital complaining of constant pain in the lower right side for six months; also she had noticed a swelling in the right ovarian region, which was gradually getting larger. Two months before entering hospital she fell and struck her right side; since then pain has been constant, and the swelling has slowly increased in size. Upon admission temperature 99°, pulse 90. Upon examination of the abdomen a swelling was seen in the appendiceal region, and upon bimanual examination a distinct tumor the size of a cocoanut was felt to the right of uterus. A positive diagnosis as to the nature of this mass was not made.

Operation.—Upon opening the abdominal cavity the whole field was immediately filled with thick clotted blood. At least a quart and a half was taken from the abdomen. A ruptured right tube was found and ligated. Cavity closed without drainage and patient made an uninterrupted recovery, leaving the hospital in four weeks.

CASE III.

I was called by Drs. White and Bledsoe, of Covington, Ky., to see a Mrs. B., and obtained the following history: Age twenty five, married two years ago, always healthy and strong until present illness; never had any diseases except those common to childhood. In February, 1902, occurred the last menstrual period. From that time until March 7, 1903, suffered continual pain in abdomen. In December, 1902, or January, 1903, had an increase in pains somewhat analogous to labor pains, which lasted for three days. Had never had any vaginal discharges until February, 1903, when she passed one large clot of blood from the vagina, and has had no discharge since then. Inspection showed an abdominal enlargement, regular in outline, as though the abdomen contained a full term uterus, and presence of a well marked linea nigra. There was no contraction or relaxation of tumor; it was very large, extending up to the ensiform cartilage, but no child could be outlined. In the left iliac region a very hard lump the size of an orange could be felt. Auscultation negative; no fetal heart or bruit could be heard. The vaginal examination could not be satisfactorily made, on account of the great pain caused by the insertion of the finger into the vagina. Under anesthesia auscultation was still negative.

Examination revealed a small vagina and a bulging mass in the right fornix. The cervix was not in its normal position, but up in the left fornix, and we were only able to feel it with much difficulty. The os was somewhat patulous and soft; there was no discharge from it. The breasts were enlarged and areola (primary and secondary) well marked, and both breasts contained milk. Patient stated that during the past three months the breasts had gradually diminished in size. We were able to make a positive diagnosis of the existence of pregnancy, but were unable to state whether the child was in the uterus proper or not, how long it had been dead, and whether a fibroid further complicated the case.

Patient was sent to Speers Hospital, and on March 7, 1903. assisted by Drs. Wenning, Schultz and Porter, I made an incision in the median line seven inches in length. Upon opening the abdomen an enormous round mass came into view and adhesions were found over its entire posterior surface. Blood-vessels were enlarged and plentiful. The hard mass which was felt in the left iliac region was the uterus, which had been pushed over, and the large round mass filling the abdominal cavity was that of an ectopic gestation in the right tube and broad ligament. We decided that it was best to open the sac, remove the child and then take out the sac. The tumor was partly lifted out of the abdominal cavity after separating some of the adhesions to peritoneum and intestines, and the upper part of the abdominal wound was closed by four through-and-through silkworm-gut sutures to keep the intestines from bulging out. Large gauze pads were used to pack around the gestation-sac, where possible, and so protect the abdominal cavity.

Upon opening the ectopic sac there was almost no bleeding, but as soon as it was opened a half-pint of dark-colored fluid covered the field. The child was extracted feet first. The remaining cavity was immediately packed with gauze and the opening closed with hooked clamps. In removing the sac-mass considerable difficulty was encountered, as the adhesions to its posterior wall were very numerous. Although removal of the uterus, left tube and ovary would add to the shock of the operation, complete hysterectomy was performed, in order to do away with the danger of septic material being left in the raw stump. The abdominal cavity was mopped with hot salt solution pads, and then all gauze pads were removed and the abdominal cavity thoroughly flushed out.

We were unable at this time to close the abdominal wound on account of numerous tears in the peritoneum extending along the sides of the vertebral column. These were all closed by running catgut sutures. After all bleeding was checked the abdominal cavity was again flushed out with hot salt solution, vaginal drainage employed, abdominal wound closed with through-and-through silkworm-gut sutures. Time of operation one hour and thirty-five minutes. Patient rallied; temperature at 8 P.M. the same day 100° and pulse 90. The following morning temperature normal, pulse 90. No abdominal distention was present. Patient's condition seemed very favorable. That afternoon at two o'clock the pulse went up to 120 and became very irregular. Norwood's tincture of veratrum viride, ten drops, was given hypodermatically. This was repeated three times at intervals of forty minutes with no effect, and the pulse became more and more irregular and rapid. At 5:30 P.M. there occurred a large movement of the bowels, and soon after the patient became pulseless. The respiration remained good, skin was not covered with clammy perspiration and the extremities were easily kept warm by hot-water bottles. Artificial stimulation was resorted to by means of whisky, digitalis and strychnine hypodermatically, injections of salt solution and carbonate of ammonia per rectum. Patient remained in this condition for twenty four hours, never losing consciousness, never having rapid breathing, but only occasionally could radial pulse be felt. At the end of twenty-four hours—that is, about 5 P M —the pulse was strong though irregular. She remained in this condition until a little after midnight, when suddenly she again became pulseless. Stimulation was ineffectual, and she died a little before one o'clock, March 10, 1903.

From the above history, time of probable pains in December, 1902, or January, 1903, and appearance of child, I judge that it had been dead for three or four months.

Measurements of the child were: Length, 50 cm.; circumference of hips, 28cm.; occipito-mental circumference, 38 cm.; occipito-frontal circumference, 30 cm.; occipito-mental diameter, 11 cm.; bi-parietal, 10 cm.; weight six pounds one ounce. The sac wall, which was nothing more than a decomposed rotten mass, measured from one to three inches in thickness and weighed three and a half pounds.

I have selected these three cases from my list of ectopic pregnancies because they presented symptoms which were somewhat out of the ordinary, showing the difficulties encountered in trying to make a diagnosis. Experience is constantly teaching that if we hope to diagnose cases of ectopic gestation with any degree of certainty, the irregular as well as the regular cases must be carefully considered and studied.

A CASE OF FRACTURE OF THE BASE OF THE SKULL IN A PREGNANT WOMAN, WITH RECOVERY, AND WITHOUT THE OCCURRENCE OF ABORTION.*

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The purpose of this case report is not to bring before you a disease of rarity, but, by reason of two interesting conditions presented by it, the case has been deemed worthy of record.

The case is that of a young white woman on the surgical service of Dr. E. W. Walker at the Cincinnati Hospital while I was an interne on that service, and it is with the kind permission of Dr. Walker that I make this report.

The patient, Miss O. M., aged twenty-two, single, was brought to the hospital in an unconscious condition on the night of September 7, 1902, with the history that she had fallen from a street-car. She was taken to the surgical ward immediately, and her condition was as follows: Temperature 96° F., pulse-rate 96, volume small and compressible; respiratory rate 24. She was bleeding from her nose, mouth and right ear, but had no subconjunctival ecchymosis. She was totally unconscious, but could be roused temporarily by painful stimuli. Babinski's sign absent on both sides, and no signs of motor paralyses could be detected. Pupils were dilated and reacted slightly to light.

The diagnosis of fracture of the base of the skull, combined with cerebral concussion, was made, and the following treatment was instituted. Her ears, especially the right one, were carefully cleansed with a warm saline solution, followed by a 1 to 4,000 solution of bichloride; the ears were then packed with iodoform gauze and a large pad of sterile gauze bandaged over the ears. Her nose was also cleansed. She was given a hypodermatic injection of morphia, gr. $\frac{1}{4}$, and later a hypodermic of strychnia, gr. $^1/_{40}$, on account of the weak heart action. Ice-caps were placed about her head, while her body was warmed with blankets and hot-water bottles.

Later patient became somewhat restless and moaned aloud, but unconsciousness continued. During the next thirty-six hours temperature rose steadily to 101.8° F.; her pulse-rate did not maintain a relative ratio to the fluctuations of her temperature, being 76 when the thermometer registered 101.8°. This disproportion was noted throughout the entire course.

Bleeding from right ear continued during second day, necessitating a repetition of the process of cleansing the ear and repacking with iodoform gauze. Urine was passed involuntarily, and bowels emptied by enemata. With the rise in temperature she manifested increasing restlessness, and could be kept in bed only with great difficulty. She was given sodium bromide, grs. xxx, and later a hypodermic of morphia, gr. $\frac{1}{4}$, which served to quiet her somewhat. Her face was flushed, pupils remained dilated, and her conjunctivæ presented an intense injec-

* Reported to the Academy of Medicine of Cincinnati, January 16, 1905.

tion, which indicated an existing meningitis. Three ice-caps were kept about her her head constantly.

During the next twenty four hours temperature ranged between 100° and 102° F., pulse-rate between 76 and 88, respiratory rate 24 to 40. Examination of lungs proved negative. At 9 A M. on the 10th temperature reached 104°, pulse rate 80, and respirations 20; three hours later temperature dropped four fifths of a degree, while pulse-rate jumped to 108, and respirations to 28. Unconsciousness continued, but restlessness was less marked. The patient's general condition had become very bad, and she was kept stimulated with whisky and strychnia. Bowels were emptied by purgative enemata.

On September 11 the temperature began to come down, but unconsciousness continued; from 9 P.M. on this day to 3 P M. on the 12th the temperature dropped from 101.8° to 96.6° F. Restlessness became less marked, and she could be aroused more easily.

September 13. Temperature remained subnormal. varying between 97° and 98° F., pulse 68 to 82, respiration 20 to 24.

September 14. Seven days after the accident her mentality had cleared up sufficiently to enable us to get a response to some of our questions, and she complained of a continuous headache. She could take her nourishment now.

September 15. She began taking fifteen grains of iodide of potash, three times a day. Each day showed a progressive improvement in the patient's condition, and by the 20th, she could talk fairly well. Headache continued, being only partially relieved by medication. Dizziness was also complained of.

October 1. Headache and dizziness continue. Diet selected and nourishing; K. I. continued.

Improvement continued and on October 6 patient was allowed to sit up in bed, supported by pillows. This position increased the vertigo.

October 10. She was allowed to get up out of bed and sit in a chair for a few minutes, and on succeeding days the time out of bed was lengthened.

October 15 she attempted to walk a few steps, but manifested a tendency to fall to her right side. This tendency to fall to her right, combined with the vertigo, without disturbance of hearing, points, I think, to involvment of the vestibular nerve, and that of the right side, or to implication of the semicircular canals, and one may conclude that the fracture extended through this part of the petrous portion of the temporal bone.

Patient continued to improve, and on October 24, forty seven days after her accident, she was discharged from the hospital, the vertigo having nearly entirely disappeared.

I think there can be no doubt that the diagnosis of fracture of the base of the skull, combined with cerebral concussion, was perfectly correct, in spite of the fact that the patient recovered. Although fracture of the base of the skull is not an absolutely fatal injury, still every one familiar with this class of cases readily recognizes their gravity.

The following collection I have made from the records of the Cincinnati Hospital. From 1870 to 1903, inclusive, there were 208 cases of fracture of the base in the hospital. This does not include the four years 1881, 1882, 1884 and 1885, as in these years all skull fractures, whether of the vertex or base, were included under the one head of "fractures of the skull; these numbered 60 cases, 36 of which succumbed. Of the 208 cases of fracture of the base recorded, 148 cases, or 71 per cent., died; 51 cases, or 24½ per cent., were discharged from hospital well or improved, while 9 cases, or 4½ per cent., were discharged "unimproved." During the three years 1901–1903, 66 cases of fracture of the base were received, 44, or 67 per cent., of which died; 20, or 30 per cent., were discharged well or improved; while 2 cases, or 3 per cent.. were discharged unimproved.

The prognosis of fracture of the base is better now than formerly, as we are greatly aided by our antiseptic and aseptic procedures in preventing, in a measure, the occurrence of septic inflammation of the meninges. Naturally, in those cases where there is a laceration of the brain substance, or where there is an extensive accumulation of blood at the base, the prognosis is much more grave. But in the prevention, when possible, of the third great element of mischief in these cases, septic meningitis, we have made a very decided step forward. Even though it may seem fruitless in many cases to carry out the method we pursued, or one equally efficient, still it should be carried out faithfully in all cases of this class, which are dangerous at their best, and make us willing to grasp at straws.

We are, unfortunately, unable to treat the nose and naso-pharynx in such a way as to keep these parts aseptic after they have once been cleaned, and thus preclude the possibility of infection of the meninges from these parts, but we should conscientiously wash out these cavities at intervals with cleansing and antiseptic solutions. It is preferable to use solutions which will not irritate and inflame the mucous membrane, as an inflammation here would tend to spread through the fracture to the meninges and thus promote that process which we aim to prevent. It is, therefore, to be recommended to first thoroughly cleanse these parts by irrigation with a warm saline solution, or with any of the alkaline solutions, being careful not to use force; this should be followed by any mild antiseptic solution.

As a result of careful investigations, it has been shown that the upper part of the nasal cavity is aseptic in a large proportion of cases; this, however, is not always true, and for this reason we should carefully and repeatedly (every three or four hours) cleanse these parts and attempt to keep them so. The ears should be treated as they were in this case to get rid of the blood, which forms such an excellent culture medium for bacteria. The head should be kept cold by means of ice-caps or a Leiter's coil, while the body should be kept warm with blankets and hot-water bottles.

Further treatment consists in stimulation, which is generally necessary, by the hypodermatic injection of morphia, gr. $\frac{1}{4}$, and if the heart be weak, by strychnia hypodermatically; the bowels should be kept open by purgatives and enemata; the diet nourishing and easily digestible; absolute rest and quiet in a darkened room. The patient should not be allowed to go about his business for at least six weeks.

Iodide of potash may be given about the second week to aid in the absorption of blood and débris at the base.

The family and personal history of the patient, which was obtained after her recovery, presents nothing of importance, but I will briefly give her personal history as follows: Had the ordinary diseases of childhood, and had typhoid in 1897. Began menstruating at seventeen, and was always regular except when pregnant; has one child, born in 1900; labor lasted three days, being eventually delivered by forceps. Denies venereals and the habitual use of alcohol, drugs and tobacco.

We will now pass to the second interesting feature presented by our case, this time an obstetrical one. On May 9, 1903, just six and a half months after her discharge from the hospital, she was admitted to the obstetrical ward. She was on the service of Dr. William H. Taylor, and I desire to thank him for the permission given me to report this portion of the case. Patient was in good condition, and stated that she had been perfectly well since the time of discharge from the hospital. Stated that she menstruated last on August 17, 1902, which was twenty-one days before she sustained her fracture of the base. On May 26, 1903, she was delivered of a perfectly healthy child, exactly 282 days from August 17, 1902. The labor and subsequent puerperium were normal, and the patient was discharged on June 9, 1903.

According to these facts, our patient was pregnant at the time she received her very serious injury, and she neither aborted, nor was the nutrition or development of the fetus disturbed in any manner. This presents to us the question—why is it that some pregnant women can stand the most severe shocks and injuries without the interruption of pregnancy, while, to our dismay, we are frequently summoned to attend a woman with a threatened or inevitable abortion which may have been produced by such an apparently slight shock as tripping on the edge of the carpet, stepping up or down from a chair, or the result of a scare? The literature contains reports of hundreds of cases of severe injuries and accidents befalling pregnant women without resulting in premature interruption of pregnancy; among these may be found cases of severe blows and falls, railway injuries, extensive general burns, stab and gun-shot wounds, profuse hemorrhages, abdominal injuries so severe as to cause intra-uterine fractures and other injuries of the fetus; severe injuries of the vulva and of the perineum; violent poisons, and numerous other severe insults. In fact, severe and extensive surgical procedures are now undertaken on pregnant women and the pregnancy goes on uninterrupted.

Tanner[1] mentions the fact that cases of fracture at the skull have not aborted.

Mauriceau[2] reports the history of a woman in the seventh month of pregnancy who fell from a third story window, sustaining a fractured arm, a dislocation, severe bruises, and who suffered great pain and distress; she went on to full term and was delivered of a healthy child.

Tiffany[3] relates the case of a negress, who, in falling, violently struck her abdomen on the edge of a tub; peritonitis developed with retention of urine, but she recovered under careful treatment and went to full term.

Another interesting case is that reported by Milner[4] in which a woman in the sixth month of pregnancy was accidentally shot, the bullet passing through the upper part of the abdomen, through the diaphragm and lodging in the lung; localized pneumonia and peritonitis developed, the process eventually draining through the lungs and being expectorated. Patient recovered, and sixteen weeks later gave birth to a healthy child.

Very remarkable is the case reported in the *Prager Medizinische Wochenschrift*[5] of a woman eight months pregnant. While working in a brickyard she was buried beneath a mass of earth and rock. She sustained a terrible laceration of the scalp, besides many other lacerations and bruises. The scalp wound became infected, and a severe attack of erysipelas resulted. Nevertheless, she carried her child to full term.

Most remarkable is the case reported by R. P. Harris,[6] in which a woman in the sixth month of pregnancy was attacked by a bull, and her abdomen lacerated by the bull's horns so that the omentum and intestines were prolapsed; the wound was carefully closed and sutured, and the pregnancy went to full term.

Corey[7] reported a nearly similar case, and another is reported in an issue of the *Madras Quarterly Journal of Medical Science*.[8]

I refer to these few selected cases merely to illustrate with what severe accidents and injuries a pregnant woman may meet without having the pregnancy interrupted.

In our case the initial severe shock consequent upon the injury itself, combined with the cerebral concussion and the subsequent meningitis with high temperature, is a combination which would generally be deemed sufficient to bring about abortion. How can we explain the failure of its occurrence?

There is no fixed law governing the influence of traumatism on pregnancy, be it innocuous or harmful. Several factors must always be considered in studying the question at hand, chief among which are, in the order of their importance:

1. Who is the individual?
2. What are the predisposing factors?
3. What is the exciting factor?
4. The question of treatment.

As it is the object of this paper to consider the subject of abortion only from a causative standpoint, I will endeavor to be as brief as possible.

Charpentier[9] states that "when a perfectly healthy pregnant female is injured (whatever may be the character or severity of the lesion), the pregnancy is not usually affected." To this rule, however, there may be mentioned quite a few exceptions, and they relate to the seat, severity and nature of the injury; they will be considered with the exciting causes.

The longer we study this question the more forcibly are we convinced that the dominant factor in these cases is the one of *individual resistance*. Abortion may be caused by severe injuries or accidents in perfectly healthy women, while other women may remain entirely unaffected by injuries of equal severity, simply because their individual resistance is greater.

Among the *predisposing causes*, excessive irritability of the uterus is of paramount importance; next in importance come the various constitutional diseases, as syphilis, Bright's disease, etc. Very important, also, are diseased conditions of the uterus, the endometrium and of the intra-uterine contents; irritability of the nervous system; debilitated conditions of the body from any cause; also precocity, senility, diseases of the genital tract, the various febrile diseases, the various intoxications and anemias; excessive vomiting and purging; the previous occurrence of injury or accident during the same pregnancy. According to some authors, most cases of abortion occur during the second and third months, while others claim most cases occur between the third and the sixth months; this "period of occurrence" should also be considered as one of the predisposing causes. The time of the menstrual epoch is also less favorable.

Whatever the *exciting cause* may be, the occurrence or non-occurrence of abortion will depend upon the individual susceptibility or resistance, and upon the presence or absence of predisposing conditions. Injury to the genital tract, perineum and anal region are of greater danger than injuries to other parts, and may even in a perfectly healthy woman be the direct factor in the production of abortion; injuries to the abdomen and breasts are also considered serious. It may be added that the seriousness is enhanced more markedly by the duration or repetition of the injury than by the degree of intensity. Of great danger are, also, conditions attended with sudden great losses of blood, and by infection of the wounds by septic processes.

In those cases in which predisposing causes exist, an injury or accident, however slight it may be, and wherever it may be situated, may lead to the interruption of pregnancy.

The treatment is a great factor in determining the fate of a given case. Extensive experience of the attending physician and the application of skill in management will frequently be the means of preventing abortion in a serious case, while, on the other hand, poor management in a less severe case may be blamed for occurrence of abortion. It is not within the province of this paper to discuss the treatment of abortion.

In closing, I may add that I have seen the patient referred to in this paper very recently; she had an attack of rheumatism in November, 1903, but otherwise has not been ill, excepting several convulsive attacks she has had. During spring of the past year (1904) she was seized one night with three separate convulsions; she could not enlighten me as to their character, but stated that she lost consciousness suddenly and without premonition, and that she chewed her tongue during the attacks; she had no further attacks until about five or six weeks ago, when she had a single convulsion on two successive nights, but did not bite her tongue this time. It would be interesting to determine whether these convulsions are consequent upon her skull fracture, or whether they were really the cause of her accident, as patient is absolutely unable to tell what caused her to fall from the car—in fact, she doesn't remember the fall, her memory on this point being a blank. There is a possibility that she became suddenly unconscious, and that this caused her fall, but she maintains that she at least never had an attack before that time.

BIBLIOGRAPHY.

1. TANNER: On the Signs and Diseases of Pregnancy; Henry C. Lea, 1868, p. 230.
2. MAURICEAU: Loc. cit.
3. TIFFANY: Transactions of American Surgical Association, 1888, Vol. 6.
4. MILNER: Medical News, lxi, 243, 244.
5. Prager Medizinische Wochenschrift, 1881, No. 6.
6. R. P. HARRIS: American Journal of Obstetrics, Vol. 20, p. 673.
7. COREY: American Practitioner, September, 1878, Vol. xviii, p. 151–154.
8. Madras Quarterly Journal of Medical Sciences, Vol. vii, 1863, p. 409.
9. CHARPENTIER: Cyclopedia of Obstetrics and Gynecology, English Translation, William Wood & Co., 1887, Vol. ii, p. 28.

THE DISTOMA HEMATOBIUM.*

BY ALBERT FALLER, M.D.,
CINCINNATI.

I have to present to-night a specimen which, while of little importance to us from a clinical standpoint, is of extreme interest as a pathologic specimen, being from the bladder of an American soldier who died while serving in the Philippines. His clinical history is unknown to me, as is the cause of his death, nothing being in my possession but a piece of his bladder, with which Dr. Bolton, of Washington, D. C., kindly presented me. The mucous membrane, except for a few small areas showing hyaline degeneration, is almost wholly wanting, due, probably, to the exfoliative action of the extreme inflammation and suppuration shown in the picture, and caused by the eggs of the *Distoma Hematobium* of Billharz, which are seen everywhere crowding the tissues, from the surface and extending almost to the muscular layer. In places these eggs are so numerous as to form an almost conglomerate mass; others appear singly and afford a better opportunity for study. Around some of these is seen well-formed connective tissue in an advanced state of development, the result of the irritation of these foreign bodies—this connective tissue proliferation, in fact, forming the greater part of the picture. However, scattered about the different fields are considerable quantities of leucocytes, some of the eggs appearing to be imbedded in a mass of pus, the greatest amount of pus being found where the eggs are fewest.

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* Read before the Cincinnati Society for Medical Research, December 22, 1904.

The distribution of this parasite is limited to tropical countries, and is in these countries quite common, being enormously plentiful in some parts of northern Africa, where the natives are far more commonly affected than are foreigners. In temperate zones it is practically unknown.

The adult male is from 12 to 14 m.m. long and about 1 m.m. in thickness, and ventrally presents a groove which contains the female; the latter is 16 to 18 m.m. long and is about 0.13 m.m. in thickness; the eggs are 0.12 m.m. long and 0.04 m.m. wide.

The adult parasite is found in the plexuses of the bladder and rectum, in the portal vein and its branches, and in the veins of the spleen and mesentery. The eggs are found in almost all of the organs, probably most commonly in the mucous membrane of the intestines and urinary passages; the liver is also commonly affected. These eggs give rise to severe inflammation in the affected parts, often to tumor formation and the production of stricture.

There are no pathognomonic symptoms; the occurrence of hematuria is prominent, and cystitis is distressing; many cases of so-called tropical dysentery have as their cause the presence of these eggs. The course of the affection is very chronic; the prognosis is always fatal. The diagnosis can be positively made only on finding the eggs in the urine or feces. The treatment is symptomatic.

Infection takes place through drinking water and contaminated food; also probably by way of the urethra and rectum, as a result of bathing with infected water.

In presenting this case I wish to plead my ignorance of the subject, and the paper is read anticipating that in discussion the members of the society will contribute more than is contained in the paper.

19 W. Seventh St.

PHYSIOLOGY.*

BY C. M. WRIGHT, D D S.,
CINCINNATI.

The teacher who approaches the subject of physiology from the standpoint of the experimental biologist has certain advantages over others, for he experiments with matter while it is alive. This the anatomist and the chemist cannot do.

Biology affords ocular demonstrations of the intimate life-histories of living creatures, which are made of apparently undifferentiated protoplasm. This illuminates function and emphasizes the character of vital phenomena pure and simple. As a teacher, the biologist can show to the student the phenomena exhibited by matter which is structureless, and yet characterized as living, and the student easily grasps the idea that just such properties must belong to the living parts of every tissue in the most complex organism.

The teacher shows under the microscope the phenomenon of fundamental protoplasmic motion, and at the same time elaborates and explains modern theories about the property of contractility in the specialized muscle cells. The later application of the laws of physics to physiological movements would be incomplete without this preliminary study of motion.

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* Read before the Institute of Dental Pedagogics, at its meeting in Louisville, Ky., December 28, 1904.

He shows in the same way the sense-quality of protoplasm, and explains his notions about the irritability of the neuron; also about chemotaxis, the influence of thermal changes, and the varying effects of light upon simple living matter.

The student watches a minute creature when it feeds, and knows that a secretion has exuded from its body, for he sees the eroding effects of it on hard food substances enveloped by the soft, jelly-like mass, which forms the body of the creature. In this living picture he has an illustration of the source and power of the digestive juices of the most highly elaborated alimentary canal. The laboratory demonstrations of the actions of enzymes would not be as plain without this biological example. Absorption and assimilation are shown by the growth of the protoplasmic body itself. Waste can be detected by changes in the granular appearance of the creature during metabolism, and also by chemical analyses of the fluid in which it lives.

Multiplication, so important a study when the formation and growth of tissue is under consideration, and when the repair of tissue after injury, or the regeneration of worn-out tissue is the subject of study, can be beautifully demonstrated in these simple creatures, for the student, after watching certain karyokinetic phases, finds two creatures where only one existed before.

In the earlier editions of Michael Foster's "Text Book of Physiology," the distinguished author introduces the ameba, and in the study of this creature lays the foundation of a profound knowledge of function in living cells. Function is the prime business of physiology. To find out what a tissue or organ can do, and how it does it, has been the pride of the physiological anatomist and the physiological chemist from the beginning. Physiology must continue to be indebted to these patient and acute investigators. We know that physiology rests upon a tripod —biology, anatomy and chemistry. I am urging in this paper that attention to one of these supports, viz., biology, should precede the study of the others. The ameba has for many years played an important part in human physiology and morphology. I remember well a conversation with Dr. Wm. H. Atkinson, twenty years ago, in which the morphology of this small creature was discussed. Very few microscopists agreed with Atkinson at that time about the differentiation in the structure of living matter. The Heitzman school in New York was the central home of some fine disciples from the dental profession of America, and Atkinson was a believer in Heitzman. I have not cared so much about the morphology as about the physiology of this tiny organism; and whether the reticulum is the source of phenomena or not, the functions inherent in living matter can be clearly shown in this simple microscopic friend of the biologist.

Landois, in the foreword of his splendid tenth edition of a "Text Book of Human Physiology," says: "It has always appeared to me in my academic activity as a teacher that my principal aim must lie in the thorough preparation of physicians for physiological thought." Personally, I have felt that if the dentist, as well as the physician, could have what Landois calls "physiological thought," his whole attitude toward practice would be improved.

The nearest road to physiological thought is through biology. Persistent reflection upon the elemental properties of living simple creatures makes the path clearer to a knowledge of the part played by the most obscure bit of protoplasm in the most hidden tissue of the highest animal.

Select, for example, a columnar cell in a uriniferous tubule, and recognizing its innate properties of motion, of irritability, of nutrition, of growth, and of multiplication, the student can readily be made to appreciate how motion, growth, and multiplication have been restrained, while its assimilative and excretive faculties have been enlarged and specialized by environment, and by some unknown directive influences.

Every cell in every tissue, of whatever class, epithelial, connective, muscle, and nerve; and in whatever position, whether in gum, pulp, brain or liver, presents to the student's mind a life-history in accordance with his study of single-celled organisms.

The performance of its function means to him the nutritive activities necessary for the cell's life in the tissue, and the changing of its potential into some special form of actual energy.

With a familiar knowledge of living protoplasm, and a knowledge of the structure of tissues such as modern histology gives, the student forms complete mental pictures of the manifestations of healthy activity in every organ and part of man.

Then, with Virchow's celebrated saying that "*Omnis cellula e cellula*," the student is impressed with the deep significance of inheritance and succession, and that each cell is but a link in a chain reaching back hundreds of thousands of years. He acquires clear notions of evolutionary physiological and pathological *variations* in function and structure. He knows that every cell in every tissue of a complex organism like man bears in its structure the imprint of prehistoric experiences. And while he cannot trace the manifold irritations, and the infinite attractions and repulsions which make the ancestral history of each cell, and which has determined its present status in the tissue, he knows by induction that the past has moulded it. Every cell has a pedigree so ancient that the mind of man cannot clearly conceive of it. This has more than a speculative value to the student, for from this he learns to attach to the term *diathesis*, a meaning so far reaching that it seems like the sum of all past influences, emotions, conditions and environments.

He learns also to take diathesis into account practically as an ever present factor in every organism, whenever one tries to measure it, physiologically or pathologically. The student is acquiring the "physiological thought."

When etiology makes plain the direct cause of an irritation which tends to destroy tissue and interfere with function, the physician, or surgeon, or dentist with the "physiological thought" takes inheritance into consideration and tries to weigh its influence on what Cohnheim has called "physiological resistance," and this in every tissue.

Metchnikoff maintains that the present structure of man, which is the result of untold ages of evolutionary cellular rearrangements, is not in harmony with present habits and environment; that organs built for defense and convenience have ceased to be necessary for present needs, and have become sources of menace to the entire organism.

The large intestine, the vermiform appendix, the teeth, and some other structures, are placed in this category.

This brilliant scientist also gives entertaining descriptions of the protective and defensive efforts of his macrophags and microphags, which to the physician with the physiological thought suggest practical methods of surgical or medical therapeutics. Every hour at the chair, or at the bedside, or at the table in the surgical ward, the dentist, the physician and the surgeon, faces *tissue injuries*, and if he has this physiological thought he sees below the surface and behind the scenes. He sees the action of living protoplasm in its various forms struggling for its own life and for the repair of tissue. He is the safe physician and operator.

There is just as much reason for the deeper study of physiology by the dentist as by the physician. The dentist deals with living tissue within living human beings. He applies mechanical, surgical and chemical measures for the prevention of disease, for the curing of disease and for the obliteration of the effects of disease. In other words, he is daily plunged into the very midst of pathological conditions which can only be correctly diagnosticated by the physiologist. Physiology, then, is the basis of the science of dentistry.

A New Syringe for the Injection of Cold Paraffin.

Broeckaert (*Medical Press*, Paris, No. 56) gives an illustration of his new syringe for the injection of cold paraffin. The screw piston is worked with an automatic lever, which also serves as the handle of the syringe. By regulating the pressure on the lever handle the screw piston is worked as rapidly as desired, while the other hand is free to mold the paraffin into the proper form. He is very enthsiastic in regard to the use of paraffin in this manner.

W. E. M.

Dr. L. F. Barker, of the University of Chicago, has been appointed to a professorship in medicine in that institution by the Board of Trustees of Rush Medical College.

Oil of eucalyptus, frequently applied with camel-hair brush, will give speedy relief of pain in chilblains, and soon effect a cure.—*Med. Summary*.

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

Meeting of January 16, 1905.

THE PRESIDENT, S. P. KRAMER, M.D.,
IN THE CHAIR.

SAMUEL IGLAUER, M.D., SECRETARY.

Prostatectomy.

DR. W. D. HAYNES: This specimen is presented on account of its unusual size—weight, six and a quarter ounces. The patient was referred by Dr. Astler, Elmwood Place. Ohio. He is sixty-nine years of age, with a past history unimportant except as relates to his present trouble. He has been leading a "catheter life" for the past two years, and has had two attacks of cystitis during that time. He is wholly unable to void urine and has been catheterized twice daily for the past ten days.

The operation was done through a median perineal incision, under ether anesthesia, at the Good Samaritan Hospital, last Saturday. Some difficulty was experienced in removing the various lobes, owing to their unusual size. Continuous drainage was employed, and the case is progressing uneventfully.

One of the earliest indications for operation is residual urine in the bladder after the patient has voided all the urine he can; this indication and the concurrent dribbling are present months—yes, years—in some cases, while compensatory hypertrophy and later dilatation of the bladder wall is going on, consequent upon some degree of vesical obstruction. It is all very well until cystitis, following infection, usually from instrumentation, takes place; then, if the patient is in poor health or enfeebled by a constant drain upon his forces by an enlarging prostate, death is very prone to follow if relief is not speedily obtained by drainage. While not wedded to any one method in operating, I have never encountered the necessity for fancy-shaped perineal incisions so dear to the hearts of our Eastern confrères. The straight incision gives free access to the field of operation and does least violence to surrounding structures. One might with equal propriety advocate tunneling the right lobe of the liver in removing gall-stones after having pushed his knife through the belly, anterior and posterior bladder walls, to reach an organ more or less superficially located in the perineum, to say nothing of handicapping the principal object of operation—drainage. The index finger in the bladder has answered every purpose in the way of a retractor.

DR. S. A. MARKLEY presented the following cases:

Herpes Zoster.

This case which I wish to present has no particular interest beyond being a typical and marked case of a well-known and always interesting affection, herpes zoster. The involvement, as you see here, is over the entire abdominal distribution of one of the spinal nerves, extending from the median line of the back to the median line of the abdomen.

The outbreak was preceded, as is usual in such cases, by an attack of neuralgia, localized at the point of exit of the nerve from the deep tissues. It has existed in its present condition now for about ten days, and causes no particular disturbance other than the discomfort due to pressure of clothes. The treatment has been directed merely to the protection of the vesicles from rupture, and has been accomplished in this case by the application of a zinc gelatin dressing.

Case for Diagnosis - Syphilis.

This case is of interest chiefly on account of the possibility of a necessary differential diagnosis. The condition as we see it here is a pustular syphiloderm, and bears in some respects a more or less marked resemblance to variola, and it is not uncommon during epidemics of smallpox for such cases, with superficial inspection, to be sent to the pest house. The distribution is, as you see, over the forehead, the forearm, the wrists, the back, and also involves the legs and ankles.

Another point of interest in this case is that it is a case of "syphilis amblee," that is, a syphilis which has not been preceded by an initial or other recognizable lesion of syphilis, in so far as a history is obtainable, but it is undoubtedly of this nature, as, in addition to the eruption which is evident, he has an angina, malaise and general adenopathy. The case, having come under observation about a week since, has already been subjected to anti-syphilitic treatment, and is now somewhat changed in character,

Traumatic Ptosis of Left Upper Lid.

DR. S.C. AYRES: The case of traumatic ptosis of the left upper lid which I present to you to-night gave me the following history. While walking in one of the warehouses of the abattoir a meat-hook attached to a piece of gas pipe caught him at the inner angle of the left eyelid, tore it off from its inner attachment, and passed under the eyebrow and came out through the skin above the outer third of the eyebrow. The hook was withdrawn by a companion and he was taken to the office of Dr. W. E. Shaw, who very skillfully stitched the torn end of the lid back in its position. Union by first intention followed, but the lid was absolutely immovable.

When I saw him, two weeks later, the upper lid was very thick and edematous. This was probably due to the deep and extensive wound which had cut off the normal blood supply. Upon lifting the lid the eye was found entirely uninjured and the ocular muscles in normal condition. Treatment was directed to the lid to reduce the edema, and, if possible, to restore the power of the levator muscle, which seemed to have been completely severed. The edema slowly subsided, but it was not deemed advisable to resort to any operation until the lid should have resumed something near its normal condition. In October I decided to operate and proceeded under anesthesia to do Grandemont's operation. This consists in removing a horizontal strip of the tarsus, together with a fold of the orbicularis and and then uniting the cut edges. At the time of the operation the eyelid was absolutely motionless. He was deprived entirely of the use of the eye, and wanted the lid raised sufficiently to enable him to do his work. The operation raised the lid enough to enable him to see to use it fairly well, but I subsequently removed some skin and a narrow strip of the orbicularis muscle. This gave him a wide enough field of vision to enable him to have binocular vision while at work. The point to be observed in this case was not to shorten the lid too much, and thus prevent him from closing it sufficiently to protect the cornea from the air.

If there had been any possibility of securing the end of the levator muscle and bringing it down I should have done so, but from the course which the end of the hook took I felt certain that would have been out of the question.

The curious and interesting feature of this injury is that an old rusty meat hook, which had been hanging there for an indefinite period, should not have inflicted a septic wound. These septic germs have a strange way of manifesting themselves which is past finding out.

THE NEW YORK ACADEMY OF MEDICINE.

Section on Orthopedic Surgery.

Meeting of December 16, 1904.

HOMER GIBNEY, M.D., CHAIRMAN.

Tumor from the Shaft of the Femur.

DR. HOMER GIBNEY: The specimen I present is a tumor from the shaft of the left femur of a patient operated on Tuesday last by Professor Bull. The history of the case is, briefly: Male, thirty-three years, specific history at the age of twenty years; treatment continued for three years. At the age of twenty-nine began to have twinges of pain in the left knee, very slight, thought to be rheumatic. A small nodule appeared on the inner aspect of the knee, which gave him no discomfort, and little attention was paid to it.

During the following three years he was conscious of the increasing size of the knee, but this was so gradual and painless that he did nothing for it. Two years ago, however, he found he could flex it with difficulty and soon thereafter was unable to do even this. Meantime his leg was becoming noticeably larger, and infrequent paroxysms of pain during the night were relieved by standing or the upright position. For the past six weeks the pains have been more frequent and more lasting, discomfort greater, locomotion interfered with.

Examination: He presents a large irregular mass on the left leg, extending from below the knee three inches upward and including the knee to about the upper third of the femur, terminating abruptly, and a distinct nodule on either side of the knee, one over the inner tubercle of the tibia and another on the outer lower third of the femur.

The comparative measurements are:—Right knee above the patella, 16; over the patella, 15⅝; below the patella, 14½. Left, 21½, 23, 16; about 5 degrees of motion. The mass was hard and no fluctuation could be detected.

A diagnosis of osteosarcoma was made. Advised exploratory incision—amputation.

X-ray showed a rather uniform mass completely encircling the knee joint and extending to about the line of the upper third of the femur. The line was a trifle lighter than the shaft presented.

On Monday last he went to the hospital and on Tuesday he was put on the table. and amputation was done. Good hard bone was met and he stood the operation well.

The tumor was sent to Dr. Norris, who makes this report:

"The specimen is a tumor of the left femur. The shaft of the femur is completely surrounded by a cylindrical or fusiform-shaped growth of firm bony tissue. The specimen measures 51 cm. in its greatest circumference, just above the condyles, and extends from the condyles upward along the shaft of the femur for a distance of 19 cm. It measures 43 cm. in its middle part; in its widest portion, 16 cm. in breadth. The new growth consists of very firm, bony tissue, which measures 19 cm. in length, and extends from the shaft anteriorly 4½ cm. in its greatest width. Posterior to the shaft there is likewise an extensive formation of new bone, which extends into and involves the muscles and tissues behind the bend of the knee-joint.

"The cortical portion of the shaft has become rarefied, but, nevertheless, remains distinct throughout the course of the tumor. The cartilages of the knee-joint are not eroded. The marrow of the shaft has apparently not been involved. The patella is not involved, but the articular surfaces of the patella are the seat of a growth, which, in appearance, is chondromatous. The periarticular tissues are very much thickened, firm in consistency, and have all the appearances of a fibro-sarcoma. In several places there are, most notably on the anterior portion of the tumor, nodules 1 cm. in size, which, in appearance and consistency, appear to be chondromatous. In places the new growth is sclerotic, whereas in many places it is much softer in consistency.

"The tumor is a periosteal osteosarcoma of the femur."

Tuberculosis of Knee-Joint Following Gonorrheal Arthritis.

DR. GEORGE R. ELLIOTT reported a case of tuberculosis of knee-joint following gonorrheal arthritis. He said the patient had had the knee resected and was wearing a plaster splint, so he could not show very much to the section.

The case was of interest to him on account of the difficulty in making a diagnosis, and others had experienced a similar difficulty. Man, aged forty-five years, gave a history of having had gonorrheal arthritis eighteen years ago. The knee joint was opened at one of the hospitals and drained, and he recovered. Has been going on without much disability and no pain ever since until about a year ago, when he began to feel a certain amount of disability and pain, accompanied by considerable irregular swelling. The symptoms continued to increase in severity. Dr. Elliott saw the patient in June. At that time he had irregular swelling of the left knee, with fluctuating mass on the external and posterior surface. He had about one inch atrophy of the thigh and very little pain upon moving the joint. There was no reflex spasm present. There was tenderness of the head of the tibia.

The speaker had some of the fluid removed and sent for pathological examination, and this was reported negative. A fixation splint had also been applied, but the symptoms increased so that it became impossible for the man to stand and walk, and at the same time a diagnosis of osteomyelitis albuminosa following gonorrheal arthritis was made. This was based on the character of the fluid examined, tenderness of the head of the tibia, contour of the joint, absence of reflex spasm and general history of the case. The well-marked symptoms of tuberculosis were absent. The patient was admitted into the service of Dr. A. A. Berg, Mt. Sinai Hospital, and an X-ray showed tremendous exudate about the joint and great irregularity of the head of the tibia and condyles of the femur. From the examination of fluid and X-ray it was supposed to be an osteomyelitis of the type mentioned. Dr. Berg resected the joint and found a tubercular mass with very extensive exudate. Union has taken place.

Interest lies in the fact that the disease followed gonorrheal arthritis of years ago; a clinical picture of periostitis or osteomyelitis albuminosa, with, however, well-marked tubercular findings.

Pott's Disease with Some Unusual Features.

DR. P. W. NATHAN: I present the third and fourth lumbar vertebræ removed from the body of M. P., female, aged twenty-four. As you see, the vertebræ are firmly united by bony ankylosis. Not alone the bodies, but also the articular processes are united by dense bony tissue. The height of the left half of the third lumbar vertebra is diminished by half, and it contains a tubercular focus on its anterior surface. Where the two surfaces of the vertebræ come together, on the right side, there is a tubercular focus about the size of a lima bean, which contains a large sequestrum. The posterior surface of the body of the third lumbar vertebra contains two foci about the size of a pea. All these foci communicate with the interior of the bone.

On longitudinal section of the bodies of the vertebræ we see that the intervertebral disc has been completely destroyed and that the two bodies are united by very dense bone. The spongy tissue of the body of the third lumbar vertebra has been almost entirely replaced by dense bone, and more than half the body of the fourth lumbar vertebra is similarly affected.

'Clinically, this case was interesting because all symptoms of Pott's disease were absent before the appearance of a psoas abscess. In fact, back symptoms were not manifest until some time after the abscess was incised. The disease lasted about three years from the time of the abscess, but there never was any kyphosis. The absence of the kyphosis is accounted for by the fact that the disease was confined entirely to the lateral portions of the third lumbar vertebra. It is remarkable that the foci in the posterior part of the body of the third lumbar vertebra did not cause symptoms of paraplegia. These were, however, not apparent during life.

The compensating proliferation in ostitis, so common in other inflammatory conditions of bone, is quite unusual in tubercular disease. At any rate, it almost never occurs to the extent found in the specimen presented this evening. Undoubtedly the disease had existed long before the advent of the psoas abscess in our case, but the new bone formation compensated for the very gradual destruction of the vertebræ, and for this reason the external signs were never pronounced. The bony ankylosis, which is, I think, somewhat rare in Pott's disease, was another hindrance to the usual forward tilting of the spine.

Discussion on Gonorrheal Arthritis.

DR. WM. P. NORTHRUP said that he was much interested in this kind of joint. In all infectious diseases there is found the same kind of joint occasionally as that seen in scarlet fever. It had been his experience that the practitioners think of this cause of isolated joint affections last of all. A year ago he went on duty at the Presbyterian Hospital, and being a little more than generally interested in joints of this kind, he unearthed three gonorrheal joints that had been treated for rheumatism six weeks and eight weeks. They were taking ordinary rheumatic treatment, and passed as rebellious rheumatic joints. These joints were treated by immobilization and gradually recovered. At one time there was coincident occurrence of several gonorrheal joints at the Presbyterian Hospital.

One of the first cases to attract attention was that of an old Irish woman who had an acute arthritis of the elbow. The speaker looked at it; and at that time he did not know much about elbows of that style. Exquisitely sensitive, one could not touch the bed without her making some Hibernian remarks; she would swear profusely. She was very rebellious, and would not submit to treatment of any kind. She wanted to go home, said she would not stay. The speaker had never seen anything more exquisitely sensitive. No fever, a fusiform swelling from wrist to shoulder. Beneath the elbow it was boggy, brawny, red. If touched it became white, and the blush returned slowly. Patient was not ill otherwise. One surgeon looked at it; he wished to open it for pus, but her Hibernian blasphemy broke loose; he left the ward and she went home.

Dr. Northrup said he was very much interested in this elbow. Soon another case came in quite like it, and it was pronounced gonorrheal joint. The speaker looked up the Hibernian woman of blasphemy and irritability. Told her he would like to help her, would put on a plaster splint; it could do no harm. She said she would have nothing of it; that she had seen a homeopathic physician who had lanced it. It would get well. Dr. Northrup saw nothing but a spot, a place where the doctor had pricked it and got a drop of fluid. The woman was no better. Finally she allowed the application of a plaster splint. That made two cases which began to get better immediately upon the application of the splint. Several similar cases followed, and among them a man then came into a private ward with a knee. His urethral history was satisfactory; he had an old discharge which stopped before the swelling began. He wished to know how long he would be sick, whether he would get well and have a good knee. He must have an answer. He was told he would be sick about six weeks, would have a perfectly good joint. He recovered in six weeks with a perfectly good joint. Another knee case came in just at this time; he, too, was told the same story, and was good enough to get well with a perfectly good knee joint. He could take it in his hands and put it up to his chin. Then came a short series of cases of exquisite sensitiveness, fusiform swelling, apparently edematous, about the joint, with serous exudate in the joint. No destruction of tissue, no adhesions, perfectly good joints resulting. One was a little stiff, little or no fever. They all ran this course, improved very much by immobilization in a plaster splint.

Unless put up in plaster, these inflamed joints had not done well. That led the speaker to think every kind of rheumatic joint should be put in a bandage or something to immobilize it. Orthopedists may think it a primitive conclusion on the part of a medical man, but at present every kind of sore joint that comes under Dr. Northrup's care is put into plaster. Cases of rheumatism come in fresh and sore, are put up in guaiacol and glycerine, and improve, but the minute they are absolutely immobilized they do better.

In the Willard Parker in scarlet fever cases it was interesting to note that most post-scarlet fever joints were of the same nature, and recovered under the same immobilization, without destruction of tissue.

In all discussions speakers seem to be talking about different lesions; one speaks of a lesion with destruction of all tissues about the joint, recovering with permanent ankylosis, another of pus in the joints, etc. It did not seem to the speaker that this particular joint, periarticular cellulitis, had been very well described. In looking at the books he could not find one, at that time, which gave him a good picture of the eight or nine joints he had been seeing in those three months' service.

Dr. Northrup thought the acute gonorrheal mono- or polyarthritic joints deserved a favorable prognosis if properly treated.

Dr. L. E. Holt mentioned an epidemic of gonococcus infections at the Babies' Hospital in which 120 cases had occurred in a period extending over more than a year. In 17 children the joints were involved. All the cases were observed in infants and very young children. The joint inflammations, as a rule, were multiple, and involved most frequently wrists, ankles, knees and small joints of the fingers and toes. The process in the joints was a superficial one, and complete recovery of function occurred in a number of instances.

Dr. Gibney said the subject was very interesting. Orthopedists have so often been accused of too much immobilization and told that they have ankylophobia, that he was glad to have a man like Dr. Northrup say he immobilized every joint, even rheumatism; it was encouraging, and made one feel that he had not been working in vain.

As to the question of diagnosis, since the last case he had presented at the section, which Dr. Frauenthal had suggested might be the effects of gonorrhea, he had been much interested. To-day he had a case of gonorrheal periarthritis of the spine, and eight years ago of the feet.

He had not been quite so successful in his treatment of the joints in gonorrheal infection as Dr. Northrup, although he had used plaster-of-paris. He could recall some of the most distressing cases in his practice—multiple arthritis with ankylosis—which never recovered. He did not know whether they were still going about. Sometimes one does make prompt recovery. If he could give his promise that they should recover in six weeks' time he would feel very happy.

Dr. B. Lapowski said he was very much interested in the remarks of Dr. Holt, and he regretted that they had not been made before the Academy instead of before the more limited section.

Dr. Lapowski suggested that Dr. Holt ascertain how the spreading of the disease in hospitals took place. Flies might have something to do with the spreading of the diseases, as Dr. Welander in a similar epidemic demonstrated that flies are carriers of gonococci.

The next point is that it is not safe to rely upon microscopical examination alone, even if made by the best man. We must have cultures, and both kinds—negative and positive. We cannot make a diagnosis of gonorrheal arthritis without demonstrating the presence of gonococci. Gonococci, when injected into the muscle, produce an inflammation, edema, redness, but not pus, as shown by Wertheim, and the cases mentioned by Dr. Northrup can be brought into this category.

It would be interesting to know whether the cervix uteri and other parts, as urethra and rectum, were involved in the process. In women the vagina is not the usual localization of the gonococcus. It is doubtful whether even in children the vagina alone is affected.

Dr. Nathan said that he wished to fully substantiate what Dr. Lapowski had said. He had seen a great many of those gonorrheal joints, and would say that when they were purely gonorrheal, they never suppurated, there was no destruction of tissue. Only where there was mixed infection and pus was there destruction of tissue.

In regard to treatment of purely gonorrheal joints, without mixed infection, they would recover with immobilization in a great many instances. As to opening joints, no matter how careful the technique, all know that in some instances we get infected joints after opening, and as a consequence stiff joints.

With a mixed infection, where one is positive there is pus, the joints should be opened and drained. He had seen a number of cases of purely gonorrheal arthritis treated by general surgeons, in which the joints were opened and drained, resulting in complete ankylosis of the joints. To have opened these gonorrheal joints when there was no pus present was a grave error and a wrong to the patient.

Dr. Sayre said he had been very much interested in the discussion. He thought there was no question that the different joints described *were* different, and that we have a simple gonorrhea or a mixed infection with different results. In some of these joints there had been complete cure, although his cases had not been of the six-weeks kind spoken of by Dr. Northrup. He had also seen the kind where there was great destruction of tissue of the joints.

Dr. Sayre had seen several cases in the spine where there was ankylosis of almost the entire spine, and as he read accounts of those cases reported as spondylose rizomelique, the majority of them seemed to him to be gonorrheal arthritis affecting the spine. He had seen several such cases which were apparently classical spondylose rizomelique.

The advantage of immobilization of any inflamed joint has not been appreciated by the profession at large, as by orthopedists. The speaker was very glad to hear Dr. Northrup say it is a good thing to keep inflamed joints still, as opthalmologists consider it a good thing to keep inflamed eyes still, as orthopedists think it a good thing to keep any inflamed part of the body still. The reason a great many of these joints are a burden, a terrible cross, and last so long, with great destruction of tissue, is because they are allowed to wobble around; every treatment except rest being tried while the joint is progressively going from bad to worse. Some of these cases are extremely slow in recovering, in the experience of the speaker, certainly if not treated properly in the beginning. If they come to our notice after the patients have had them for a long time the condition is invariably intractable. Many broken down feet, painful feet, tender feet of one kind or another, with not much apparently to account for the condition, have their origin in gonorrheal arthritis of the tarsal joints, and they are extremely intractable in the experience of the speaker.

Dr. Fiske said that in making a diagnosis of some of these cases we ought to bring to our aid every scientific means; still, we often make a diagnosis of gonorrhea without the microscopical slide, in the same way that we are able to make a diagnosis of gonorrheal joint without making an aspiration of such joint. In every case the speaker made the statement to the patient that he might be well in three months; he thought that a reasonable statement to make. Most of these gonorrheal joints represent a self-limited disease; if the urethritis, the original focus, be attended to the joint will recover without treatment. Immobilization is a grand thing for these joints, or for any sensitive joint. Hot air—baking—is of great value. Some of the gonorrheal joints Dr. Fiske had seen had been cured in a remarkably short time—within two or three weeks—by baking. The joints are exposed to a temperature of 250 to 300 degrees. Dr. Fiske thought these joints should undergo this treatment. He still thought that if the original focus be attended to the gonorrheal joint would go on to recovery; then it would be a self-limited disease.

Dr. Frauenthal said that the condition of the joint differs with differing contents, as explained by Konig's classification, and that is what makes the difference of opinion of various physicians as to the nature and prognosis of gonorrheal arthritis. Those containing plain serous effusions will recover in three, four or five weeks. Dr. Frauenthal thought in the cases cited by one of the gentlemen, after discovering the gonococci in the joint on the third or fourth day, if, in the third or fourth week, the specimen has been thoroughly investigated, they may fail to discover the gonococci. This was the experience of Kammerer and others.

Dr. Frauenthal asked Dr. Holt if, in the cases cited by him, the children had high temperature. Also if the joints involved were very sensitive, as in those seen by Dr. Frauenthal the joints were acutely sensitive; that the contour of the involved joints was due to the fact that not only the synovial sac was involved, but the tendon, tendon sheaths and bursa. Orthopedists see the bad cases, subacute and chronic. Dr. Frauenthal had the case of a young girl in whom the cervical spine, right knee, right hip and right hand were involved. The patient's hand made a recovery in about six weeks. There is still chronic trouble in the hip, possibly due to mixed infection. Patient has worn a splint for some eight or nine months, and now has nearly the normal range of motion. The restriction of motion is mostly in the cervical spine. The child had profuse gonorrhea when she first came under treatment.

A Recent Epidemic of Typhoid Fever.

J. D. Briggs (*Medical Record*, January 7, 1905) analyzes in instructive fashion the circumstances attending a serious outbreak of typhoid fever in a small isolated community in the Allegheny watershed. The water supply of the village came from two sources, one a reservoir at some distance, and the other a nearby spring. The reservoir water had a pronounced flavor and odor, due to the presence of algæ, but it was found that the clear and more agreeable spring water was the means of dissemination of the disease, owing to contamination by drainage from an imported case of typhoid. The author points out the necessity for great care in laying out sewerage systems in the neighborhood of water supplies, and directs attention to the importance of thoroughness in the disinfection of all excreta, linen, bath water, etc., from typhoid cases. Formaldehyde, bichloride and lime preparations are greatly inferior in effectiveness to carbolic acid, which should be freely used in 5 per cent. solution, and allowed to act for several hours.

M. A. B.

Pneumonia in High Altitudes.

A. R. Goodman (*Medical Record*, January 14, 1905) summarizes the statistics of the morbidity and mortality from pneumonia in the American Hospital, Mexico City, from 1890 to 1904. Of 4,367 cases of disease treated during this period, 101 were pneumonia. A marked preponderance of the disease was observed in the first six months of the year, *i e.*, before the rainy season. The average mortality was 39 8 per cent. M. A. B.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, FEBRUARY 11, 1905.

RECTAL ALIMENTATION.

A great deal of stress is placed by many physicians upon the value of rectal feeding at times when, from various causes, the stomach is unable to retain or contain the food administered in other ways. Edsall, who has done a large amount of experimental work in this line, together with his associate, Martin, has recently made statements of great interest in this regard.[1]

As has been previously stated by many experimenters, food administered per rectum is, in a majority of instances, very poorly absorbed as compared with the results obtained when food is assimilated in the usual manner. In addition, the bulk that can be given by the rectum is comparatively small, and as a consequence the patient ordinarily obtains an insufficient amount of nourishment. Unfortunately, the form of food most imperfectly absorbed is fat—unfortunate because a given weight of fat provides the organism with more than twice as much energy as does an equal amount of either proteid or carbohydrate. So that if even a relatively small amount of fat were absorbed by the lower bowel the result would be of great importance owing to the high food value of the fats. Edsall and Martin's experiments were first, therefore, to attempt to find a method of artificially preparing fats so that a greater degree of absorption might be secured. With this purpose in view, experiments were carried out in two different lines; To provide fats in the form of a soap that could be readily prepared and administered, and to investigate its absorption when given by the rectum; to find a good emulsion of fat that would remain emulsified after its introduction into the bowel, and to determine the extent to which it was absorbed. The soap experiments were determined upon because of the assertions of Pfluger that practically all the fat taken into the digestive tract was split up and absorbed chiefly in the form of soap. This experiment was, however, unsatisfactory, chiefly because of the irritative effect of the soap upon the gut and the consequent increase in the number of alimentary discharges. The emulsion, made by taking the whites of nine eggs and an equal bulk of a ½ per cent. solution of bicarbonate of soda, heating the mixture on a water bath, adding 100 c. c. of cod-liver oil and shaking thoroughly for five minutes, proved quite satisfactory in a case of persistent hysterical vomiting. The patient received per rectum 644 grammes of fat in seven days, of which amount it was determined by careful analysis that almost 30 per cent. was absorbed, which was somewhat greater than that taken up upon a predigested rectal diet of milk and eggs.

This result is encouraging to experimenters endeavoring to improve the nutritive value of enemata, though it must be admitted that the amount of fat absorbed by this patient was, of itself, far too little to furnish the amount of energy necessary for even a person absolutely at rest. Furthermore, it must be admitted that if this method, or one derived from it, is to have any clinical value at all, it will be essential to contrive some means of adding a considerable amount of carbo-hydrate in a form that will be capable of being taken up in fair amounts. These are difficult practical problems, but Edsall and Martin are sanguine that in the near future enemata will be devised that will be able to supply daily in food value from five to seven hundred calories. At present they believe that nutritive enemata fulfill the following functions: Most important, to provide fluids and various inorganic salts for the tissues; to provide perhaps a third to a sixth of the requisite amount of food; to prevent the anxiety of friends and patient that would supervene were the patient apparently without food.

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[1] American Medicine, February 4, 1905.

LEAFLET OF THE OHIO STATE BOARD OF HEALTH.

The Ohio State Board of Health, having at heart the interests of the general public, has recently issued to the physicians of the State a number of circulars, requesting that they be handed to patients suffering from venereal diseases. This circular is practically the same one that has been adopted by the conference of State and Provincial Boards of Health of North America, and is as follows:

"We hand you this leaflet believing that you would not willingly communicate your disease to some innocent person.

"Many fail to comprehend the exceedingly disastrous results that often follow these diseases. Many cases of blindness, complete disability, and not infrequently death results from them. Gonorrhea is one of the most frequent causes of diseases peculiar to women. So serious a menace have these diseases become to the public health that the medical profession and sanitarians in all countries have become alarmed, and are advocating measures for their prevention.

"Syphilis (or pox) is especially a disease from which innocent persons may suffer, as it usually produces sores in the mouth or on the lips, hence may be conveyed by kissing, drinking from the same cup, or using anything which has been put to the lips or into the mouth of one affected by the disease.

"These diseases are often communicated when the patient thinks he has recovered. Hence marriages contracted at this time of the disease result in much unhappiness and often in the death of the wife. To protect yourself and others, we earnestly advise the following:

"Follow strictly the advice of your doctor, use no other treatment.

"Remember that it takes a long time to entirely recover.

"Carefully wash your hands with soap and hot water whenever you handle the private parts.

"Do not have intercourse and avoid all sexual excitement until your physician says you are completely cured. Be especially careful not to rub your eyes with your fingers.

"Do not allow any person to use any cup, glass, spoon, fork, or a ything that you have put in your mouth.

"Do not kiss anyone or wipe the face of a child with a handkerchief you have used. Always use a separate towel. Burn all cloths or cotton soiled by discharges."

In addition, statistics have been furnished to physicians as to the prevalence of venereal diseases in general, it being estimated that there are 200.000 cases annually in New York City alone. In Prussia, where statistics are more carefully kept, it is stated that while typhoid fever represents a yearly loss of 8,000.000 marks, the increased expense and diminished income caused by venereal disease amounts to over 90,000.000 marks annually, far exceeding the cost of tuberculosis. But even this enormous financial loss is as nothing compared with the social deterioration and social misery. The physicians of the State should welcome heartily the distribution of these leaflets, and should adopt every means to insure their widespread distribution.

EDITORIAL NOTES.

It is proposed to establish at Baltimore an Osler Memorial Library, and funds are now being collected for the purpose.

Dr. William Osler has contributed one thousand dollars towards the purchase of a building for the Ontario Medical Library Association at Toronto.

Dr. Frank Foster, the able editor of the *New York Medical Journal* has completed his twenty fifth year of service as medical editor.

At a meeting of the Canton Medical Society, held in that city January 6, 1905. The following officers were elected for the ensuing year: President, Dr. E. J. March; Vice President, Dr. G. A. Kelly; Treasurer, Dr. F. D. Hinden; Recording Secretary, C. F. Schiltz; Corresponding Secretary, L. D. Stoner. The annual address was delivered by Dr. Brooks F. Beebe, of Cincinnati, and was entitled the "Rationale of Suggestion." Toasts were responded to by Dr. Edwin Ricketts, "The Doctor's Wife;" Dr. B. F. Beebe, "The Doctor's Fireside;" Dr. R. A. Biechele, "The Canton Doctor;" Dr. C. J. Aldrich, "Medicine of the Future."

Realizing the importance of a society in which clinical workers in ophthalmology may be able to report their interesting daily cases and enjoy full and free individual discussion upon the same, and present theoretical and statistical papers upon ophthalmic subjects, Dr. Oliver, of Philadelphia, has recently organized the "Association of Clinical Assistants of Wills' Hospital." Membership by ballot is open to all those who have been or are connected with one or more of the clinical services in Wills' Hospital for a period of not less than three months' time. Meetings are held at the hospital at 8:30 P.M. on the first and third Wednesdays of each month. All who are eligible are invited to attend and join.

The Governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley will give a special course of four lectures on "The Relation of Diseases of the Skin to Internal Disorders" in the Out-Patient Hall of the hospital on Wednesday afternoons at 4:15 o'clock, commencing March 1, 1905. The course will be free to the medical profession.

Report of the Bureau of Infectious and Contagious Diseases for the week ending February 3, 1905:

Disease.	Cases.	Deaths.
Measles	4	0
Diphtheria	10	1
Scarlet Fever	19	2
Typhoid Fever	13	2

Attention is particularly called in this report to the prevalence of scarlet fever and of small-pox.

Academy of Medicine. — Monday evening, February 13, Drs. M. L. Heidingsfeld and A. J. Markley will read a paper entitled "Some Dermatologic X-Ray Abuses," with demonstrations from lantern slides.

Medicine.

JOSEPH EICHBERG, M.D.
MARK A. BROWN, M.D.
WM. MUHLBERG, M.D.
H. W. BETTMANN, M.D.

On the Healing of Tuberculosis (Clinical Features).

H. M. King (*Medical Record*, January 7, 1905) says that the first onset of tuberculous infection, in many cases, if not usually, antedates the appearance of clinical symptoms by months or even years. Careful search into the previous history of such patients reveals slight illnesses of various sorts, such, for example, as malaria or grip, which the results of autopsy work make it appear are probably evidences of systemic reaction to tuberculous infection. Two cases of this type are described, and the author states the following general propositions:

1. It is probable that the initial lesion following a tuberculous infection is often

obscure in its clinical manifestations and frequently escapes identification.

2. There is nearly always a prompt and very often successful tendency on the part of the organism to a more or less complete repair followed by an interval of apparent health.

3. Following this interval, which may extend into a period of years, there is a strong tendency to relapse.

4. What is in reality a recrudescence of an arrested lesion is very frequently mistaken for an initial onset.

5. Whatever may be the facts in an individual case, the safest and most practical policy lies in regarding every apparent recovery from tuberculosis as merely an arrest of the disease, brought about by an acquired immunity which suitable conditions are very prone to destroy.

The author has found that the generally accepted prognostic significance of a diazo-reaction in tuberculosis has application chiefly, if not solely, to the last stages of the disease, and it may be temporarily present even in early acute manifestations without necessarily indicating an unfavorable termination. A slight leucocytosis is present much earlier in the disease than is usually believed.

M. A. B.

The Treatment of Digestive Disorders.

J. W. Hunter, Jr. (*Medical Record*, January 14, 1905), says that the prevalent methods of treating digestive disorders give unsatisfactory results. An inability correctly to diagnose digestive affections, a tendency to treat all cases of indigestion by a routine method, and the injudicious administration of ferments are responsible. He advocates a rational plan of treatment based on a careful physical examination, which should comprise all the organs of the body, and, in doubtful cases, also include examination of the stomach contents and feces. Constipation must be corrected, and the teeth and mouth should receive what treatment is necessary. Proper mastication of the food, and healthful methods of cooking are essential, as well as moderate exercise, fresh air, sunlight and rest. The various bitter tonics are useful, and antacids, such as bicarbonate of sodium or carbonate of magnesium, in some cases combined with an intestinal antiseptic and a mucous protective, will do much to prevent flatulence. Acute attacks are treated by carminatives, followed by a saline, an emetic, or lavage. A case is described which had been unsuccessfully treated with enzymes, and which promptly yielded to rational measures. These consist in assisting nature without rendering the functions dependent on medication, which, in the long run, reduces their activities, instead of stimulating them.

H. W. B.

An Experimental Study of the Movements Produced in the Stomach and Bowels by Electricity.

G. G. Marshall (*Medical Record*, January 7, 1905) conducted a series of experiments on animals in order to determine the degree of reaction by the application of the electric current to the stomach and intestines. The faradic, galvanic, and faradogalvanic currents were used in different degrees of intensity, and the method of applying the electrodes was also varied in many ways. While the pyloric end of the stomach feebly contracted, and the intestine contracted uniformly under the immediate application of a small metal electrode, no reaction followed when a thin layer of wet cotton was placed over the metal. The contraction produced in the intestine had no semblance to peristaltic movements, only the circular fibres being constricted. Hence the conclusion is drawn that electricity as generally administered, either percutaneously or directly, never causes contractions or increased peristalsis of these viscera, and the author shows how contractions of the thoracic muscles may simulate a gastric reaction, and so deceive physician and patient. Experiments are also described which demonstrate that the gastric mucosa offers no unusual resistance to the passage of electric currents, and that the failure to produce contractions in the organ is in no way due to a nonductive character of its mucous membrane.

M. A. B.

At 2000 feet above the sea level the Asheville plateau has a dry and bracing atmosphere; there is never danger of discomfort to the most delicate.

Never treat a case of vomiting without inquiring about hernia and examining abdominal rings.—*Med. Summary*.

The Lancet-Clinic

A Weekly Journal of Medicine and Surgery.

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NEW SERIES VOL. LIV. FEBRUARY 18, 1905. WHOLE VOLUME LXXXXIII.

IS MAN AN OMNIVOROUS ANIMAL?*

BY FRANK L. RATTERMANN, M.D.,
CINCINNATI,
Clinician on Diseases of the Stomach and Intestines at the Cincinnati Polyclinic and Post-Graduate School.

From the days of the Greek philosophers Plato and Pythagoras up through the ages to the present time, we find defenders of vegetarianism. Isaac Newton was a firm believer in the principles of vegetarianism, and published a very interesting and instructive book in 1811 "On Return to Nature, or Defense of Vegetable Regimen."

Shelley, Goldsmith and other English writers of renown championed its cause in England, while Alcott, Graham, John Smith and Charles Lane were powerfully influential in starting the first vegetarian society in London in the year 1847. Their influence extended over the entire English-speaking world, and the United States, in many eastern sections, soon followed the footsteps of their London predecessors. Jean Jacques Rousseau promulgated its doctrines in France, Eduard Baltzer founded the first vegetarian society in Germany, while Theodore Hahn, of St. Gall, Switzerland, was the first to exclude from the diet list of the vegetarian not only meats, but the products of animal life, as milk, cheese, butter and eggs. Prior to this time most vegetarians included the latter foods, and even since many allowed the use of these products, and felt that the principles of their belief had not been undermined.

In the discussion of this question one cannot acknowledge the participation in any of the products of animal life without being placed in the position most of humanity occupy in believing man by nature to be an omnivorous being. The animal kingdom is commonly divided into three classes. The herbivora, carnivora and omnivora. The first two classes are so distinctly separate in their habits and form of diet, that no reasonable argument favorable to the consolidation of the two classes had ever been made. There have been arguments tending to prove the intimate relationship as to diet of the first and third. It would seem, therefore, advisable to compare the two classes, by not only studying the anatomical development of the gastro-intestinal tract, but, likewise, the physiological capabilities of the gastro-intestinal secretions of both the herbivora and omnivora.

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* Read before the Cincinnati Chapter of Alumni Society of the Medical College of Ohio, December 21, 1904.

Anatomists tell us that the intestines of herbivorous animals are many times the length of their bodies, and while that of man has a comparative length of one to five, and that of an ox one to twenty, the sheep has the enormous intestinal length of one to twenty-seven. These anatomical differences tend to prove Nature's intention for herbivorous animals to accommodate more food, probably because of the comparative smallness in amount of the albumin present in vegetable foods, and the existing difficulty of extracting the albuminous product from the cellulose shell. Nitrogenous foods are just as important to the herbivorous as they are to the carnivorous or omnivorous animals. The muscular development of the cow, or the horse, the giraffe, or the bulky elephant, requires albumin for the retention of its muscle equilibrium. The carbohydrates or the fats, having nothing to assist in the repair of the muscle waste in either man or lower animal.

Analysis of the vegetable kingdom shows outside of the legumins, as peas, beans, etc., a small amount of albumin present and a large amount of carbohydrates. The demand for albumin is as great in the herbivorous as any other animal, and hence it necessitates the consumption of much larger proportions of foods to extract a sufficient amount of albumin to control muscle waste. Herbivorous animals have larger capacities for the accommodation of food, and much stronger digestive secretions, and hence in the consideration of the respective length of the intestines of man and herbivorous animals one can, without hesitancy say, that man normally is unable to accommodate the quantity of food which these animals must digest in order to survive. Physiologists tell us that a healthy adult of 150 pounds requires 90.0 to 100.0 grammes of albumin, 60 0 grammes of fat, and 450 0 to 500.0 grammes of carbohydrates every twenty-four hours to tide over the wants of the system and retain the body weight. If figured in calories, which it usually is, man requires about 3.000.0 calories every twenty-four hours.

A calorie, as you already know, is the amount of heat required to raise a kilogramme of water from 0° C. to 1° C. A gramme, for instance, of albumin or carbohydrate is able to produce sufficient heat to raise a kilogramme of water from 0° C. to 4 1° C., while a gramme of fat will raise the temperature of the water from 0° C. to 9.3° C. These figures have reference only to the heat produced in the process of body combustion, or, in other words, the body requires sufficient albumin, carbohydrates and fats to produce 3,000.0 calories every twenty four hours in order to functionate the muscles and organs of the system, retain the body weight, and keep the temperature at 98.5° F. We know that the calories produced by the combustion of albumins cannot be replaced without the most serious results to the body by the carbohydrates and fats. Albumin retains the muscle equilibrium, and to a certain extent assists in the formation of adipose tissue. Ninety to 100.0 grammes of albumin is about the limit for twenty-four hours, and cannot be exceeded or substituted by or for the carbohydrates and fats without great debility setting in, and if continued for any length of time death itself. The same applies to the fats but not to the carbohydrates; for we know the American Esquimo lives upon albumin and fats and does not receive 1.0 gramme of carbohydrates in his food. The 90,0 grammes of albumin necessary to retain life in an adult man can be received in one of four ways. Firstly, from the albumin in blood; secondly, from meat; thirdly, from products of animal life, as milk, cheese, eggs and butter; and fourthly, from vegetables, as cereals, grains and legumins, from cabbage, carrots, herbs, nuts, fruit, etc. The consideration of the last of these four is the most important, as it vitally concerns the question under discussion. Rice, containing 8 per cent. albumin, would take 1,100.0 grammes, or 3 pounds, approximately, in the twenty-four hours to tide over our proteid wants. In this amount we would receive about 873.4 grammes carbohydrates, or 373.4 grammes more than the average system demands.

Potatoes, containing 1.5 per cent. albumin, would necessitate 6.000.0 grammes or 17½ pounds in twenty-four hours with

17.9 per cent. carbohydrate, representing 1,074.4 grammes.

Cornmeal, containing 9.2 per cent. albumin, necessitates 980.0 grammes albumin or 2½ pounds in the twenty-hours, with 678.36 grammes carbohydrates.

Macaroni and vermicelli, containing 9 per cent. albumin, necessitates 1,000.0 grammes or 2.8 pounds in the twenty-four hours, with 76.8 per cent. carbohydrates, representing 768.0 grammes.

Maize, containing 10 per cent. albumin, necessitates 900.0 grammes or 2.5 pounds in the twenty-four hours, with 64.5 per cent. carbohydrates, representing 580.5 grammes.

Cabbage, containing 1.8 per cent. albumin, necessitates 5,000 0 grammes or 14 pounds in the twenty-four hours, with but 5.8 per cent. carbohydrates, representing 290 0 grammes.

Carrots, containing 1.6 per cent. albumin, necessitates 5,625.0 grammes or 15 pounds in the twenty-four hours, with 8.4 per cent. carbohydrates, representing 470.4 grammes.

Arrow root, containing 0.8 per cent. albumin, necessitates 11,250.0 grammes or 30.8 pounds in the twenty-four hours, with 83.3 per cent. carbohydrates, representing 9,412.9 grammes.

White wheat in bread, containing 8 per cent. albumin, necessitates 1,125.0 grammes or 3.12 pounds in the twenty-four hours, with 49.2 per cent. carbohydrates, representing 568 80 grammes.

Peas, containing 26 per cent. albumin, necessitates 330 0 grammes or approximately 1 pound in the twenty-four hours, with 56.4 per cent. carbohydrates, representing 176.49 grammes.

Dried apples, containing 0.9 per cent. albumin, necessitates 10,000.0 grammes or 28 pounds in the twenty-fours hours, with 71.5 per cent. carbohydrates, representing 7,150.0 grammes.

Raisins, containing 0.4 per cent. albumin, necessitates 22,500.0 grammes or 62 pounds in the twenty-four hours, with 24 per cent. carbohydrates, representing 4,900 0 grammes. With the exception of the legumins we find the percentage of albumin low and the carbohydrates usually high. This necessitates a larger bulk of vegetable food to tide over the albuminous wants of the body, while the carbohydrates usually exceed many grammes its requirements.

Three pounds of rice in the twenty four hours are necessary to supply the demands for albumin. This amount contains approximately 873.4 grammes carbohydrates.

Only 500.0 grammes carbohydrates are necessary, while the remaining 373.4 grammes are gotten rid of in one of three ways, either they are absorbed and deposited as fat, or else carried quickly out of the body by combustion or finally they undergo fermentation in the intestinal tract and produces the disagreeable symptoms of fullness and bloatedness so common in so-called gastro-intestinal dyspepsia. These symptoms come on at variable times in the experience of the vegetarian, and though in the healthy years may elapse before symptoms manifest themselves, still a time usually arrives in their experience when the heavy and irksome work of continually digesting the bulky food and overloading the stomach and intestines disturbs the individual, and the consequent symptoms of fullness, bloatedness, belching and diarrhea occur. Just as it is possible for one to have a mitral regurgitation of the heart for years without suffering the least inconvenience, so it is possible for an overtaxed and overburdened gastro-intestinal system to accomplish its work for years and years, and in a few cases for a lifetime, without manifesting the least symptom of digestive difficulty. The gastro intestinal secretions are not powerful enough to destroy the thick cellulose shell in which most of the albumins in vegetables are contained.

Yeo figures 17 per cent. of albumin lost in the vegetable, because of its greater presence in the indigestible cellulose shell than the pulp, while only 3 per cent. of albumin is lost in the animal food. Food manufacturers realize this, and in the preparation of vegetable foods break open the cellulose shell by cutting up the vegetable into the finest particles. Examination of the feces of twenty-five different cases in the laboratory of Ewald in which vegetable and animal foods were given revealed the following facts: When 100.0 grammes of albumin with the necessary amount of carbohydrates and fats were given as far as possible in the form of animal food, and then in the form of vegetable foods, examination of the feces revealed that of the albumin, fats and carbohydrates, the following percentages were absorbed:

Animal food, albumin 92.5 per cent., fat 87.5 per cent., carbohydrates 4.0 per cent.; vegetable food, albumin 86.3 per cent., fat 72.0 per cent., carbohydrates 71 8 per cent. The animal albumins were absorbed 6.2 per cent. more than were the vegetable albumins.

Experiments have likewise shown that 100 0 grammes of animal food will produce 284 calories, while 100.0 grammes of vegetable food will only produce 208 calories. One is surprised in these experiments, by the larger amount of food absorbed from the animal and the larger percentage of calories produced. It is the smallness of bulk and the greater percentage of utilization of animal albumin and fats that makes it a desirable food. The greatness of bulk of vegetable foods and the comparative smallness of man's gastro-intestinal tract, the weakness of his digestive secretions, the loss of the greater percentage of vegetable albumins, and waste of a larger amount of carbohydrates, together with the ectatic conditions of both stomach and intestines as a result of excess slack, and the diarrheal conditions which often occur as a result of the mechanical irritation of the bowel from both the indigestible slaky elements, and the gaseous carbohydrate fermentations, make the vegetable diet an impossibility to the greatest majority of individuals and an uncalled for necessity to all.

Some years ago Vigsford related that in the construction of a railroad from Paris to Rouen in France, both English and French laborers were used. The English laborers in the beginning accomplished one-third more work in a day than the French, and it remained so in spite of the exertions of the contractors to equalize their working ability. After the introduction of meat into the diet list of the French, as the English had from the beginning, both accomplished the same amount of work. The Patagonians, living upon herbs, grasses, nuts. etc., are mean and cruel in the treatment of prisoners, but are decidedly limited in their powers of muscular endurance, and rapidly sink under the weight of exhaustion when continued for only a reasonable length of time.

The carnivorous Esquimo is able to tide over the extreme cold of the north on his fish and blubber, but his powers of muscular endurance are not as great as the civilized man living upon the foods from both the animal and the vegetable kingdoms The Chinese and Japanese consume with their rice, eggs, fish, pork and chicken. The Australian savage lives upon berries, beans, pith, nuts, honey, larvæ, ants, etc, always preferring the combination of both foods when opportunities present. Most vegetarians have dilated stomachs and intestines resulting from the accommodation of large quantities of food necessary to supply their wants. The powers both of resistance to great exertions, as well as the neutralization through the activity of organic cells, leucocytes, etc., the poisonous influence of disease, is much decreased, while convalescence is considerably prolonged.

One of the reasons vegetarians do not manifest earlier the bad influences of a strictly vegetable diet is because of the usual temperate habit that is associated with their moral courage of overcoming and avoiding temptations of animal foods. Alcohol, tea, coffee and tobacco in immoderately large quantities have a weakening and depressing effect upon the heart and the general circulatory system, which if avoided, leaves the body better able to cope with the insidiously slow, but surely oncoming debilitating effects of purely vegetable foods.

Many are the objections to a mixed as well as a vegetable diet, and though I might mention various examples in favor of the one or the other, they are not in themselves convincing enough to formulate positive conclusions. The vegetarian speaks of the cruelty of sacrificing animal life simply to follow the cravings of a higher organized being. They bring forward the argument of the mean qualities that are brought out in man by eating animal food; in fact they say, that the sentiments of man are tempered by the kind of meat indulged in. David Garrick, the great English actor, asserted that when he played the character of Richard III., he partook extravagantly of beef, and when the character of a deceived groom, lamb.

Meat should often be a parasitic host, and is frequently conducive of arteriosclerosis, of gout, and strongly awakens the desire to drink stimulants, such as alcohol, tea and coffee. The vegetarian apparently overlooks the fact that the South Sea Islander, living upon roots and herbs, etc., and the Chinese pirates upon rice, are some of the most cruel people on earth. It is a known fact that maize occasionally causes a mental disease called Pellagra. The gouty formations are the result usually of the immoderately large indulgence in animal foods, and to an excess every reasonable man is opposed. Intestinal parasites occasionally result from the eating of improperly cooked infected meats, but this reason is no more acceptable for argument than that we should not drink Ohio river water during typhoid fever epidemics because we might not be sure of killing the germs and spores in boiling. Our relationships to dangers in life begin at the cradle and end only with the grave.

Meat contains extractives which stimulate the heart and nerves, and though the desires of stimulation are present to a greater or less extent in all nations who use animal foods, still experience shows that to the individual who participates moderately in stimulants no evil results follow. An abuse is no argument against the use of an article, provided that article in its moderation is not particularly harmful. Moderation is different in different individuals, and what is moderation to one might be excess to another. This applies equally as well to foods as to stimulants. It is therefore, my conviction, in view of the greater length of the intestines in the herbivorous as compared to the omnivorous animal, and from the tendency of all mankind to indulge in both classes of foods when possible, that a more concentrated diet was meant for man than the purely vegetable. The ectatic condition of the stomach and intestines, with its usual associate symptoms of fullness and bloatedness after eating, of intestinal fermentations, with its consequent diarrheas or severe constipations, gradually weakening the body to such extent that death can, and often does occur unless animal food is inserted. Man was intended to have a more concentrated food, particularly of the albumins, than is usually contained in the vegetables, foods that will occupy comparatively little space and will not necessitate great demands upon the digestive functions of both stomach and intestines; and finally foods that will not grow revolting to taste, which is usually one of the most frequent complaints of the true vegetarian. In view of these facts, I cannot help but feel that man was meant to participate moderately in the foods of both kingdoms. He is truly an omnivorous animal.

THE PREVENTION OF APPENDICITIS.*

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From available figures it would seem that appendicitis is more frequent in our country than elsewhere. This is on the assumption that the mortality rate is much the same in England, Germany and France, where modern methods both of medical and surgical treatment are practiced, and where statistics are, or should be, reliable. Possibly more detailed information relative to our whole country might give different results.

In Illinois, with a population of about 5,000 000, there were, in 1903. 471 deaths from appendicitis, or 94 per million. In Chicago alone, which represents nearly two-fifths of the population of the entire State, in 1901 there were 249 deaths; in 1902, 261, and in 1903, 262, being at the rate of 140 per million.

The same high death-rate is approximated in other cities of our country, especially in similar latitudes. New York City had, in 1903, 439 deaths, or 123 per million; Philadelphia, 130 deaths, or 97 per million; Boston, 104, or 181 per million; Buffalo, 54, or 146 per million; San Francisco, 42, or 120 per million; Baltimore, 57, or 110 per million; St. Louis, 15, or 25 per million; Cincinnati, 33, or 97 per million.

It will be noticed that in Philadelphia, Cincinnati and St. Louis only are the deaths fewer than a rate of 100 per million inhabitants.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11-13, 1904.

Some foreign countries and cities which I have been able to get reports from are as follows:

In England[1] and Wales, with a population of about 33,000,000, there were 1,244 deaths from appendicitis and perityphlitis in 1901, or 38 per million. In 1902 there were 1,485 deaths, or 45 per million.

Manchester, England, with a population of 550,355 in 1902, had 18 deaths, or 40 per million; and in 1903, 20 deaths, or 44 permillion.

Sheffield, England, 418,155 in 1902, had 20 deaths, or 38 per million.

Borough of Battersea, 173,422 in 1903, had 8 deaths, or 45 per million.

Berlin, with a population of 2,000,000, in the first eight months of 1904 had 152 deaths, or at a rate of 218 for the year, which would give a rate per million of 108.

Paris, with a population of 2,500,000 in 1902, had 197 deaths, or about 79 per million.

Vienna, with a population of 1,500,000 in 1903, had 141 deaths, 94 per million.

It would seem that in cities of like size, and where modern methods obtain, there is a less mortality abroad, especially in England, than in our country.

The probable cause of this greater frequency is, to use an Hibernianism, several. We have an abundance of food and poor cooking. We have the poorest teeth of any people and abominable habits of eating. We lead a most strenuous life and suffer most from nervous exhaustion. We have a most variable climate, overheat our houses, and take cold more than other nationalities. We are said to be a nation of dyspeptics neurasthenics, and victims of catarrh.

To live up to our knowledge along these lines would not only lessen appendicitis, but would diminish the frequency of many other diseases, especially those of inflammatory type, which have their origin in common colds, and which are probably the cause of 25 per cent. of all deaths.

With our knowledge of sanitation, our comparatively sparse population, our variety of climate and our varied industries and occupations, we should be the healthiest as well as the happiest people on the face of the earth.

It is probable we are the most radical in our views as to operation, and that we have the best operators in this kind of work.

It is possible that the radical views as to operation, which are conservative when held by skillful operators, become a source of danger when impressed upon general practitioners and occasional operators.

If remote from competent surgery, I had rather take my chances with such preventive measures as are here advocated, and in case of attack, with Ochsner's treatment, than risk surgical treatment by a man who only operates occasionally, or one poorly equipped.

The splendid record of some of our surgeons solves the problem of operation in most cities, but their rules followed by incompetent operators probably accounts in part for an abnormal mortality rate.

Murphy[2] says there is something wrong if an operator's mortality rate is above about 4 per cent. In my last one hundred cases, the rate was 3 per cent. One of these declined operation until multiple hepatic abscesses developed; another was practically moribund; and the third was operated in the stage characterized by Richardson as the dangerous period. This case, I believe, might have been saved by Ochsner's plan, or, more surely, by early operation.

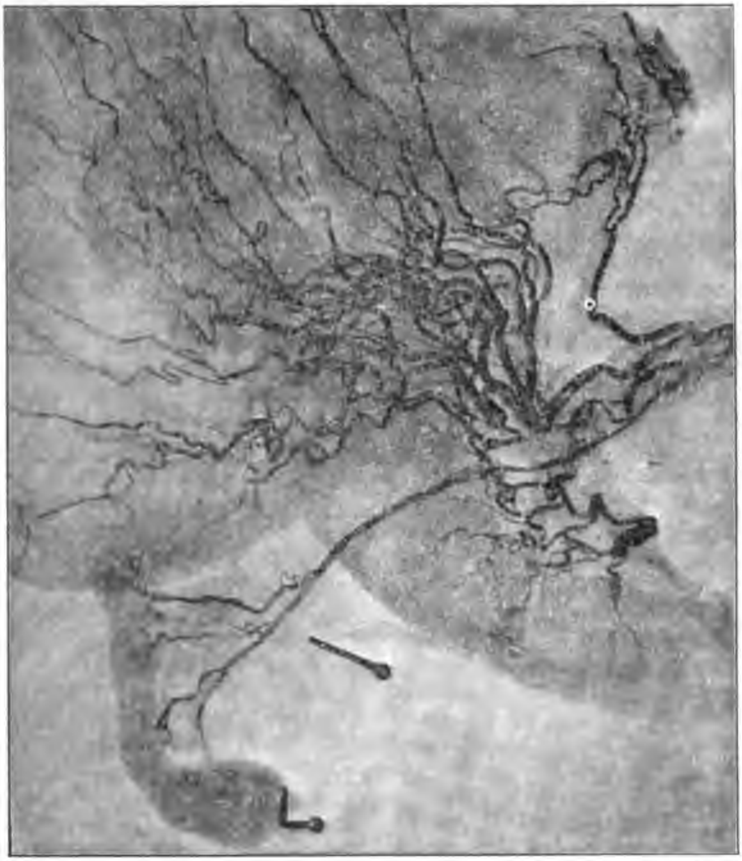
In reviewing the causation of appendicitis it is apparent that, like hemorrhoids and hernia, it is to some extent a penalty imposed upon man for getting on end. The most dependent part of the intestinal tract which has no outlet is the appendix, and its blood-vessels and lymphatics are also among the most dependent. These facts, taken with its vestigial character, its large amount of lymphoid tissue and the constant presence of infective germs, are the chief predisposing causes of appendicitis, which Prof. Osler says is the most important inflammatory disease of the intestinal tract.

Much has been said of the blood supply of the organ and its solitary artery as being inadequate and precarious, owing to possible torsion or obstruction. It is, in my opinion, first, incorrect to say there is never more than the one artery; and second, that any ordinary torsion from muscular action or cecal distension can obstruct or interfere materially with what arterial supply there is.

A single specimen which has been kindly prepared for me by Prof. Santee, and X-rayed, shows the solitary artery, but not those claimed for the appendix by Lockwood, although I am sure that in many cases the cecal branch sends branches to the appendix, as I have demonstrated in operations.

In observations on a few hundred cases I have not seen the arterial blood supply obstructed on the proximal side except as it seemed to progress from the distal end, caused by the infection at the periphery.

With reference to the blood supply, Lockwood[3] says: "The cecal branch of the posterior ileo-cecal artery courses over the inner and hinder wall of the cecum close to the base of the vermiform appendix, to which it gives one or more branches. This is the earliest and most constant blood supply of the vermiform appendix, because during fetal life the appendix has no mesentery, and is entirely dependent upon the cecum for its blood supply. As a rule, one of the cecal appendicular arteries is much larger than the rest, and runs along the appendix at its junction with the meso-appendix. Here it anastomoses with the meso-appendicular arteries. This small cecal appendicular artery bleeds rather freely when the appendix is amputated, and if not previously secured in the ligature which includes the meso-appendix has to be separately tied. Occasionally the cecal artery sends another, but smaller, branch to the appendix. This runs along the wall of the appendix at the side farthest from the mesentery. As the appendicular branch of the posterior ileo cecal artery enters the meso-appendix, it divides into three branches; the largest runs almost in the



X Ray showing blood supply of the appendix.

free edge of the meso appendix, and is perhaps the most important, because the free end of the appendix depends upon it; the other two reach the appendix at intervals of half an inch."

Kinking of the appendix from distension of the cecum or muscular action or stenosis at the cecal end from acute congestion may promptly interfere with the return circulation, venous or lymphatic, or with the innervation, but in my view cannot interfere with the arterial supply. When infection, which is the most potent and essential factor, causes swelling of the inner coats of the appendix, and proximal constriction by peritoneum and muscularis, the process is well established and the return circulatiou and innervation are shut off.

The so-called varicose ulcer of the leg is not caused by a deficient blood supply, but by impeded return circulation. A tight garter may induce varicose veins, but does not compress the arteries.

The logical treatment, then, in all cases, threatened or incipient, is strict recumbency and rectal feeding only. In my judgment many more cases would result from typhoid, dysentery and other catarrhal diseases of the intestines were it not that the patients are in bed.

If we have an infected throbbing finger we hold it up. After operations or in treatment of wounds of the extremities, we elevate the part. In cases of typhoid fever the physician feels it a religious duty to keep the patient in bed; and yet I believe many cases of incipient or chronic appendicitis are permitted to go about when the danger from ulceration and perforation are infinitely greater. After the disease is established, operation should be done, or, if contra-indicated, Fowler's position should be substituted and Ochsner's plan carried out.

Infection, as has been said, is the prime factor in ,exciting inflammation. The chief causes of the primary local irritation which invites the infection are:

1. Errors of diet: (*a*) Immoderate eating of ordinary foods; (*b*) eating indigestible articles of food, especially in large amounts; (*c*) eating fast and poorly masticating.

2. Taking cold, causing visceral congestion, acting in the same manner as other microbic diseases that are initiated by colds.

3. Foreign bodies and fecal concretions, causing pressure ulceration and admitting germs.

4. Flatulent indigestion and constipation: (*a*) Favoring entrance of fecal matter; (*b*) causing slight tramatism, kinking or abrading the mucosa by torsion or dragging; (*c*) causing irritation at entrance to the appendix, with stenosis resulting.

5. Traumatism: (*a*) From without, injury to the abdomen; (*b*) psoas contraction or other muscular exertion.

6. Typhoid fever, dysentery, colitis, tuberculosis, etc.

It is obvious that in view of some of these causes no general preventive treatment can be instituted. Considering the causes that may be influenced by treatment, I believe errors of diet the most frequent. The disease occurs most frequently at the age and in the sex where faulty habits of eating and errors of diet are most common — from ten to thirty years. It is not uncommon to see attacks follow an immoderate meal, or the ingestion of indigestible articles of food. If one has transgressed in either of these ways and feels the approach of acute digestive disturbance the rational treatment is the promptest possible evacuation of the whole digestive tract, keeping it empty and urging strict recumbency. Cholera morbus, I believe. ushers in many cases of appendicitis, which are regarded as primary disease of the appendix. That is, the acute digestive disturbance irritating the mucosa is followed by stenosis of the base of the appendix and the infection follows. This I have observed formerly in a considerable general practice.

It is easy to say that one may have overlooked a tender appendix in the general disturbance; but I have examined these cases in the start frequently, in every possible way, without determining any local tenderness or temperature, and have often seen both local tenderness and temperature appear at the end of the acute digestive disturbance. It seems to me it is not rational in all these cases to ascribe such active, painful and distressing symptoms to an appendix in which no evidence of disease can be found. These cases I believe to be frequent, and in a large measure preventable, by prompt evacuation, strict recumbency and starvation, or rectal feeding. This variety of case is also sometimes the result of a severe cold, the chilling of the surface causing an acute visceral congestion, which is followed by the ordinary attack of cholera morbus, with its sequel an occasional appendicitis. The treatment should be the same as for the same condition resulting from errors of diet, plus prompt restoration of the peripheral circulation. The prevention of colds will ward off some of these attacks, and this in turn is accomplished by the same means that are recommended as preventive in other inflammatory diseases.

It is as rational to believe we may prevent some cases of appendicitis caused in this way as that we may stand off a pneumonia or rheumatism. Right living is the treatment. This means avoidance of wet feet and drafts, keeping the vital powers up to par by avoidance of dissipation, over-work or worry, and properly heating and ventilating our houses. We keep our living rooms warmer than any other people, so far as I know—certainly warmer than the English. We should have more outdoor life, cool baths and better ventilation to inure us to changes of temperature—in short, the same directions Dr. Ingalls has given for the prevention of diseases of the respiratory tract. For people who are very susceptible to intestinal disorders, we may recommend a flannel bandage with advantage.

Perhaps few people, comparatively, learn how to best regulate their lives, especially as to eating, drinking and exposures of various kinds, until past thirty years of age, which may explain in part why a great majority of cases of appendicitis as well as of many other diseases, due to similar causes, occur before that age.

While fecal concretions or foreign bodies are less frequent causes of appendicitis than was formerly supposed, they cause probably 10 per cent. of cases. From the slight but somewhat frequent attacks, with little or no temperature, followed by prompt recovery under treatment by absolute rest and starvation, I have several times found, as I expected, fecal concretions, with or without foreign bodies. In many of these cases there is a stricture proximal to the concretion. The proper preventive treatment in this class of cases is operation. After one such attack, especially if there is any bar to operation, it may be tried to wash out with salines with some chance, probably better than we should have in efforts to expel gall stones.

Flatulent dyspepsia, which is held a frequent cause by many authorities, is amenable to treatment generally by diet, exercise and remedies to relieve the atony of the colon.

Treves[4] says: "A large proportion of patients suffering from appendicitis and perityphlitis are chronic dyspeptics."

As physicians try to arrest a progressive caturrhal affection of the air-passages to prevent pneumonia, so they should attend to intestinal derangements, some of which often precede attacks of appendicitis; of these perhaps constipation with flatulent indigestion are most frequent.

Dr. George Rubin has shown by some ingenious experiments how a distended cecum may admit foreign bodies into the appendix which could not be made to enter otherwise.

It is probable that flatulent indigestion or constipation, with fecal stasis in the cecum, not only favor admission of fecal matter into the appendix, but also, by dragging or torsion, causes kinking and closure of the lumen or other irritation or abrasion of the mucosa, inviting the infection. It is difficult to reconcile our theories of extension from intestinal diseases, in the light of the infrequency of the disease during the course of a diarrhea or dysentery. A few days before leaving home I operated on a young man of twenty (kindly referred to me by Professor Quine), who had been suffering from a typical chronic dysentery for a year. The specimen showed ulceration in three places in the appendix, such as we should expect to find in the colon in such a case. The appendix was not much diseased, and the muscular coats were not invaded. This patient was constantly in bed, and the return circulation was favored by that circumstance, which I believe prevented more destructive infection.

Senn says,[5] in reference to intestinal disorders in the army: "It was somewhat astonishing that of the many thousands of soldiers who returned from Cuba and landed at Montauk not one case of appendicitis came to my attention that would have justified an operation. It was naturally not anticipated among so large a body of men, almost all of them at some time during the preceding five months the victims of intestinal affections, that the appèndix would escape infection so constantly. The climate, the diet and antecedent intestinal affections contracted in home camps during the campaign in Cuba should have, according to our ideas of the nature of appendicitis, combined in exciting the disease, but such was net the case."

Traumatism, by injury from without or from muscular strain, is a cause of appendicitis in a small per cent. of cases, and the preventive treatment is summed up in the one word—caution.

It is obvious, from the mechanical factors that figure in this disease and the numerous conditions that attend or precede the attacks, that no rule can be made to apply in every case. It may seem to be petty attention to details to consider some of these items that I believe are potent as preventive measures, but in the practice of our profession no one knows better than the surgeon the importance of attention to just such details in order to get the best results. It is easy to advise and do operations, and in cases of progressive infection I believe in operation in the early stage—that is, twenty-four to forty eight hours—as I do in recurrent cases and in some instances after even one attack; but there are people who will not consent to operation and others in whom diabetes or other contra indications are present on whom we dare not operate. There are also many cases that cannot secure competent surgery on account of their location. The individual case must be considered by itself, its etiology carefully studied, as well as any peculiarity, and treatment adapted accordingly. In one case it will be necessary to regulate the habits of eating, in another to cultivate immunity from colds or proper habits of exercise, while digestive disturbances of various kinds will require attention in others. In all, the proper hygienic conditions should be secured to keep the vital resistance up to the highest point.

During the past six or seven years I have advised these measures as preventive after one attack in which there has been no operation, and, so far as can be known, I believe recurrence has not occurred in over 20 per cent. (most of these being in young people), partly because of the greater frequency in the young, and in part, I believe, because of lack of intelligent co operation on the part of the patient. The consensus of opinion is that more than 50 per cent. of cases not operated recur.

I desire to acknowledge my indebtedness to Dr. George Rubin for many of the statistics here presented.

REFERENCES.

1 Figures from Registrar-General's Office.

2 The Americal Journal of the Medical Sciences, August, 1904.

3 Appendicitis, its Pathology and Surgery, pp. 28 and 29.

4 Albutt's System of Medicine, Vol. 3, p. 897.

5 Senn's Practical Surgery (1901), p. 711.

DISCUSSION ON PAPERS OF DRS. HARSHA, HARDON AND BARRETT.

Dr. F. F. Lawrence, of Columbus: I do not think these interesting papers ought to be permitted to go by without some discussion. They are valuable contributions.

With regard to the first paper, there is one thing which the author did not mention, but which should be considered first. We do not have any symptoms, so far as the patient is concerned, of serious trouble until the peritoneal covering of the appendix is involved, and there is more or less local peritonitis. The symptoms that give rise to the rigidity of the muscles, tympany, reflex vomiting, etc., are practically symptoms of peritoneal involvement.

Another thing: In many cases of acute gangrene, in which it occurs within a few hours from the onset of the trouble, may it not have been brought about by thrombosis of the vessels in the meso-appendix? It has been shown during the past year by a number of observers that thrombosis of the mesenteric artery is not rare, resulting in a quite extensive gangrenous condition of the intestines. I have seen one or two cases of gangrene of the appendix since my attention was called to that particular feature in which there was a distinct thrombotic condition of the meso-appendiceal vessels.

With reference to the question of operating immediately or later, not delaying by the starvation treatment, it seems to me each case must be a law unto itself. However, if a case comes to the matter of an operation being performed for appendicitis by men who have not the particular surgical training, or by men whose opportunities are extremely limited, and who only perform a chance operation now and then, if it were my appendix I would take the chances of the expectant plan of treatment, not because such men may not be able to carry out the ordinary treatment, but because, not being engaged in the work of abdominal surgery, they are not in a position to carry out a complete aseptic technique, and there is no operation in surgery which requires greater judgment or more skill sometimes than the operation for appendicitis. In one case the appendix may be in one part of the abdomen remote from its usual site, or in another it may be retro peritoneal. It may occupy a space through an opening in the mesentery which throws it up into the lesser peritoneal cavity. In fact, it may be so situated that the judgment of the surgeon is severely tested. A very good practitioner said to me a few days ago: "Doctor, I would like to see a few appendiceal operations. I do not expect to do very much surgery, but I want to do, if possible, appendix and hernia operations myself. I have seen a few, and I want to see more." I said to him: "If you are competent to do operations for hernia, as they come to you, strangulated or otherwise; if you are competent to do appendix operations as they come to you, you can do any kind of operation."

There is nothing I dread more because of the uncertainty in which I am likely to be placed than to operate on a case of appendicitis. I believe that has been the experience of the great majority of surgeons. There is no question but what in the hands of men who have had considerable experience and training that an operation in every case will bring about better results than if we were to wait. It is not good policy to open the abdomen during acute peritonitis in the early stages of appendicitis, but it is better to have the patient remain as quiet as possible. It is better to resort to stomach lavage and keep everything from entering the stomach, after washing it out, and operate when the acute infection becomes localized.

Dr. **Frank T. Andrews**, of Chicago: It seems to me that pelvic disease has not been sufficiently emphasized by Dr. Harsha as the cause of appendicitis or as associated with it. All of us who operate a great deal upon the tubes, ovaries and uterus know that in a fair percentage of cases we have appendicitis to deal with. However, that form of appendicitis which is associated with tubal trouble, with salpingitis, is not always of a severe grade, and in opening the appendix and examining its mucous membrane in some cases, we may not find the organ involved. But in a fair proportion of cases of pelvic disease we will find that the mesentericum is contracted. The appendix is drawn to the right or to the left, or drawn up and adheres closely to the surface of the cecum. The trouble seems to be not from within, but there is interference with nutrition by reason of the inflammatory conditions in the abdomen from without on account of interference with the circulation in the meso-appendix. The result is that the gynecologist is occupying himself with abdominal surgery to a large extent. Many of these cases on examination show no other signs than a slight tenderness at McBurney's point.

Dr. **Harsha** (closing the discussion on his part): I am very glad indeed that Dr. Andrews called our attention to the pelvic forms of infection of the appendix, because I have been seeking for those causes which in some way might be of advantage to us in diagnosing the trouble, and this is one of them. It strikes me that we will have to go back some distance and try to prevent some of the infections that cause tubal troubles, and preventive means will at once occur to your minds.

In speaking of Dr. Ochsner's plan, which I think has not been very well understood, there is a distinct place for that sort of treatment. Most of the deaths from appendicitis cases operated on in the midst of an attack, or during the acute attack, occur in this time which Richardson has characterized as the dangerous period for operation; and while most of us would prefer to operate on every case which is progressively infected, still there is a time when there is great tension, when there is considerable fever, and a good deal of toxemia, when the patient has all he can stand, so to speak, without the added shock of operation. In Dr. Ochsner's hands this plan seems to lower materially his mortality rate. This brings to mind a point which I tried to bring out in my paper, namely, the same plan of treatment followed by Ochsner cannot be properly adjudged when it is applied indiscriminately by others. The same thing holds true in regard to surgical cases.

For instance, in Murphy's large list of cases he shows a death-rate of only 3 or 4 per cent. His paper will be found in the August number of the *American Journal of the Medical Sciences*. In Dr. Ochsner's report of more than five hundred cases he shows a mortality of 3½ per cent. Such a low mortality is a triumph for surgery.

DR. HARDON (closing the discussion); I have not much to say except it would seem more appropriate if these papers had been read before the medical rather than the surgical session. Medical men see these cases first, after which the surgeon is called in, operates, and saves lives, and it seems to me almost fruitless to talk to men who are so unanimous in their opinion as to the time of and necessity for operation, so that we may avoid unnecessary death. I believe I would favor a movement whereby the surgical and medical sections should join in discussing such subjects as this, as I believe we could derive a great deal of good by having the members of the medical section address us occasionally, and we, in turn, them.

DUEHRSSEN'S VAGINAL CÆSAREAN SECTION AND DEEP CERVICAL INCISIONS.*

BY E. GUSTAV ZINKE, M.D.,
CINCINNATI.

If there is a chapter in the science and art of midwifery which is in need of revision and improvment it is the one which considers the different methods employed for the purpose of evacuating the pregnant uterus at any period of gestation without the loss of much time, with as little injury to the mother, and the best opportunity to save the life of the child if the period of viability or maturity has been obtained. To those who study carefully and practice thoughtfully the art of obstetrics, it becomes daily more and more apparent that, notwithstanding a rigid application of antisepsis and asepsis, the results of rapid digital, manual, balloon and metal dilatation of the uterus are not as satisfactory as they would wish. Invalidism and sometimes death of the mother and a very high infant mortality still follow these procedures even in experienced and skillful hands. The question of substituting the radical or conservative Cæsarean section in some of the cases demanding a forcible and rapid delivery during the period of viability and at the end of term, has been considerably agitated of late years, and, I am happy to say, very remarkable results have been obtained. There is not a single case of placenta previa, for instance, on record in which a celio-hysterotomy was done, near or at the end of utero gestation, but what both mother and child survived the operation and lived. In many instances the same splendid results were secured in spite of previous futile attempts at delivery. Notwithstanding there were many authorities and practitioners who strongly and persistently objected (without valid reasons, in my own opinion) to the adoption of Cæsarean section for the relief of these complications. It must be admitted that those who did possess the courage to perform Cæsarean section, rather than resort to hand, bag or metal dilatation, did not do so because they were particularly fond of performing this operation, but rather because they felt certain that, by resorting to it, a better result could be obtained for both lives concerned.

It was left for Duehrssen to evolve and formulate an operation which is destined not only to occupy a prominent and permanent place among obstetric operations, but to take the place of the classical Cæsarean section in many instances. In the introduction of his manuscript, "Der Vaginale Kaiserschnitt," Duehrssen declares that the principal object of the obstetric art is to give to the mother during the ordeal of labor such assistance as will enable her to pass safely and uninjured through the many dangers that beset the act of birth, and secure to her a living and vigorous child. As long as it remains evident that this object can be attained by the unaided efforts of nature, under the always necessary care of a well qualified medical attendant, nothing need or should be done. But when it becomes apparent that nature alone is unable to perform the task, and that the life of the mother or the child, or both, are placed in jeopardy if nothing is done, then science and art must intervene in a manner which conveys less danger to both lives concerned than the conditions which call for the interference.

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* Read before the Academy of Medicine of Cincinnati, January 15, 1905.

This means forcible delivery of the child by traction upon the head with the forceps or manual traction upon the trunk, with or without previous version. To accomplish this it will be necessary, in many cases, to open up the womb artificially either through the vagina or the abdomen. The means at our disposal up to within recent years were, through the vagina, the digital dilatation of Bonnaire and Edgar, the manual dilatation of Harris, the balloon and metal dilatation, superficial incisions into a rigid os, and, through the abdomen, the conservative or radical Cæsarean section.

Until of late Cæsarean section was never employed except in the presence of irresistable barriers within the parturient tract; but the very high fetal mortality following manual, metal and balloon dilatation, and the frequent invalidism and occasional death of the mother, the direct consequence of these methods, have created a justification for abdominal hysterotomy in the grave complications such as placenta previa, puerperal convulsions, serious disease of the kidney, the heart, etc. Admirable as have been the results obtained by the performance of a timely Cæsarean section, conservative or radical, for any of the complications just mentioned, the profession at large has not fully sanctioned the substitution of this operation for the various methods of emptying the pregnant uterus previously in vogue; and it is, perhaps, not too much to say that abdominal hysterotomy would not have been resorted to as often as it has within the recent past if the operators had been acquainted with any other mode of procedure by the aid of which equally good, or even better, results could be accomplished.

Duehrssen's vaginal Cæsarean section and deep cervical incisions have, therefore, been received with much favor everywhere by all of those operators and practitioners who have recognized the necessity of improvment in the methods of rapid and forcible deliveries.

A good deal of adverse criticism has been made in regard to the name Duehrssen applied to his operation, "vaginal Cæsarean section." This is probably due to the fact that the technique and importance of "Duehrssen's operation" (the name by which it is now generally known in Europe) was not fully understood and properly appreciated. The writer came to this conclusion by reading the reports of cases of so-called "vaginal Cæsarean section," especially of the operations performed in this country, which were, in many instances, only deep cervical incisions. As there is a vast difference between the former and the latter, in technique, importance and indications, and because of the seeming want of familiarity of the details of the operation, the essayist has taken it upon himself to give you a translation of Duehrssen's own description of the operation and its indications from his printed manuscript, "Der Vaginale Kaiserschnitt," Berlin, 1904, a copy of which the writer only lately received from the distinguished German author and operator.

"THE TECHNIQUE OF VAGINAL CÆSAREAN SECTION, OR DUEHRSSEN'S OPERATION.

"After emptying the rectum and bladder and a thorough disinfection of the vulva, its vicinity and the vagina, the first step in the operation in the primipara is to relieve the resistance of the lower third of the vagina by a right lateral vagino-perineal incision (*rechtseitige Scheidendammincision*. Episiotomy). If, with this incision, the levator ani muscle has been divided, the closed hand of a large man can be readily introduced into the vagina, and, with the aid of short, broad specula, the portio vaginalis and vaginal vault promptly exposed to view. The cervix is then seized on both sides with bullet-forceps, which are promptly displaced by two string-bridles (*Fadenzuegel*), and the posterior lip split sagittally up to the vaginal junction. In extending this cut the posterior vaginal fornix is severed about 4 cm. Through this opening, with the aid of a speculum, Douglas' peritonoum is pushed away from the posterior wall of the cervix and lower uterine segment. The anterior lip of the cervix and vaginal fornix are divided in the same manner, and the bladder and anterior peritoneal fold are lifted off the anterior wall of the cervix and body of the uterus. This manipulation may be greatly facilitated by severing the vaginal wall from the cervix by a transverse incision of 2 cm. in length. Thus the anterior and posterior uterine walls are exposed fully to the extent of 6 cm., and both, first the posterior and then the anterior, are quickly split with a few strokes of the scissors. The opening thus made, and into which the amniotic sac will fall at once if the membranes are still intact, must be large enough to admit with ease the fist of a strong man. This hand promptly proceeds to one foot and extracts the child.

"If the uterus contracts well—which can be made all the more certain by a subcutaneous injection of ergotine prior to the operation—one may await spontaneous separation of the placenta and deliver by expression; if, however, there is uterine atony, then the placenta must be separated manually and a tampon placed into the uterus according to Deuhrssen's method. The latter is a very simple procedure; because of the extensive opening in the lower uterine segment, specula may be readily introduced directly into the uterus, between which large masses of gauze may be quickly passed into the cavity.

"With gentle traction upon the string-bridles, fixed on either side of the cervix at the beginning of the operation, the vaginal and uterine incisions are readily brought within the vulval opening, and this greatly facilitates not only the tamponing of the uterine cavity, but also the introduction of the sutures in the subsequent sewing up of the uterine and vaginal wounds. The posterior uterine wall is closed first with a through-and through interrupted catgut suture (*durchgreifende catgut knopfnath*), tied upon the side of the cervical mucous membrane. The anterior uterine wall is united in the same manner, except that the sutures are tied upon the anterior instead of inner surface of the uterus. The vaginal incisions are brought together with a continued catgut suture, leaving a small opening only close to the uterus, through which, for the purpose of drainage, a small strip of gauze is passed in the ante- and retro-uterine spaces. The latter, as well as the uterine tampon, are removed after three to twenty-four hours.

"If a vagino perineal incision was made, the operation terminates with closure of the same. The vaginal part of the wound is approximated with a continued catgut suture, the perineal part with deep silkworm sutures. The latter are removed in eight to ten days.

"The after treatment does not differ from that which follows normal labor; the subjective post-operative condition is as favorable as in cases of easy, spontaneous deliveries."

A detailed description, like the one just given, may create the impression that the operation is complicated and difficult; but to one familiar with vaginal operative gynecology, a vaginal hysterotomy (conservative or radical) will be very simple and easy of execution. Indeed, the conservative vaginal Cæsarean section has been performed so quickly by Duehrssen and others that, as a rule, a living child was in the hands of the operator five minutes after the beginning of the operation. The separation of the bladder, the anterior and posterior peritoneal folds, are especially easy because of the loosening of the connective due to pregnancy.

Duehrssen first recommended this operation April 1, 1895, and performed it successfully, saving both mother and child, April 25 of the same year. Pozzi declares it the last of the famous operations of the nineteenth century, but gives the credit to Acconci and Italy instead of to Duehrssen and Germany. In his printed manuscript, "Der Vaginale Kaiserschnitt," Berlin, 1904, Duehrssen effectually and decisively settles the question of originality and priority in his favor.

Duehrssen (*Berl. Klin. Wochsch.*, November 6, 1899), reports a case of vaginal Cæsarean section in which he delivered a moribund patient of a living and mature child in six minutes, and, as the autopsy showed, without injury to the bladder and the peritoneum. The uterus also showed that the incisions extended beyond the cervix into the lower uterine segment.

Excessive and alarming hemorrhage has been urged as a serious objection to vaginal hysterotomy, mostly on theoretical grounds and by men of limited experience. Duehrssen and most of his followers maintain that hemorrhage is not alarming. Bleeding from the wounds may be considerable, but it is at once arrested, first by the operator's arm, and next by the body of the includes the numerous cases in which the life of the child is placed in jeopardy in consequence of protracted labor, pressure upon the cord or placenta, primary and secondary uterine atony, etc.

13 Garfield Place.

(*For discussion see p. 208.*)

THE VALUE OF THE X-RAY TO THE GENERAL PRACTITIONER.*

BY JAMES E. COLEMAN, M.D.,

CANTON, ILL.

That the greater portion of the practice of medicine will continue to remain in the hands of the general practitioner, and that the burden of the diagnosis of disease rests entirely with him, seems a foregone conclusion.

This being true, any agent which will improve the general practitioner's resources for battling disease, or will make more acute his diagnostic ability, should be eagerly sought for by him, and favorably received by the public at large. The Roentgen rays have been so thoroughly tested and found helpful that they should belong to armamentarium of the general practitioner, as well as to specialist. It is true that the Roentgen rays have been used by unprincipled persons and against the uses of science. This should not prejudice us against the ray, but rather is an argument in favor of educating the people in its operative principles and uses.

A case in point is the following. During the last year a friend of mine, who is an expert electrician, was called upon to repair some connections for an advertising X-ray specialist. While working upon them several patients came in and were rapidly examined. The doctor turned their backs to the tube, set the motor running, and, without any light at all in the tube, told the patients wonderful stories about the condition of the stomach, intestines and internal organs.

Before buying an X ray machine the general practitioner should purchase and read a standard work on the subject, and even if he does not intend to take up the work, he should familiarize himself with the class of patients it will benefit.

In regard to the kind of machine to be used, I have nothing to say, only that it should be first-class, first-hand, and purchased from a reliable manufacturer under guarantee. This will save trouble if the working of the machine should prove unsatisfactory. Judging from a very wide acquaintance, I am satisfied that unfavorable results are due to failure in the mechanical manipulation of the apparatus, and that this should be especially studied. A proper preparation and study of the subject will also do away with the danger from burns, such as the unfortunate case of Edison's assistant, and also in the avoidance of medico-legal complications. The worst case of X-ray burn that I have ever encountered is worthy of mention.

A man in a neighboring town had a comminuted fracture of the tibia and fibula caused by the falling of the roof of a coal mine. The result of treatment by the local practitioner was recovery with a slight overlapping of the upper anterior tibial margin of the fracture. A lawyer got hold of the case. In the meantime the patient was advised to be examined by the X-ray. The Illinois State Medical Society was holding its annual meeting near the place, and a general practitioner of medicine took the patient to the meeting to have the examination made with one of the several X ray machines which were on exhibition. There the man in charge of the machine was, of course, delighted to show the case. For over two hours the doctor who had the patient in charge kept him before the tube, showing him to attending physicians. One month later a large portion of the leg sloughed out. The patient, however, was so well satisfied with the X-ray examination that no case was brought against the doctor. He attributed the burn to "impure blood," and finally made a complete recovery, with a useful limb.

Having purchased and obtained satisfactory operative results from his machine, what may the general practitioner expect from treatment by it? In my experience, the treatment of acne has been the most satisfactory of all cases. The horrible eruptions are a walking nightmare to the general practitioner, and often show the fruitlessness of treatment, even when directed over a period of months. They are promptly and permanently cured by a few treatments with the X-ray.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11–13, 1904.

My most brilliant success, however, has been in the treatment of a case of epilepsy. Previous to the use of the X ray my experience in treating epilepsy with medicines had been very unsatisfactory, and I believe the results of other observers to be the same. Almost every country town has a record of two or three epileptics who have been falling on the streets for years, thus showing the inefficiency of treatment. My attention was first called to the value of X-ray treatment for epilepsy by Branth. He cited some very astonishing results. I was treating at the time a very obstinate case, Mrs. B., aged thirty-eight years, perfectly well except for the seizures, which would come on at any time and place. She would cry out, fall in the street and froth at the mouth, and exhibit the usual phenomena of the epileptic seizure, attended by the gathering of an excited crowd, and hurried sending for a physician, until she was afraid to venture from home. The exposures were given according to the Branth method, beginning with five minutes' exposures at fifteen inches from the head and gradually reducing the distance to ten inches and increasing the exposures to ten minutes, and using a high-vacuum tube. During a period extending over several months, and from the time of the first treatment, the patient has not had a single attack. She now goes when and where she pleases, has passed successfully through the Fourth of July, Barnum's show and a religious revival, and is in every way perfectly well. No medicine was given at all after beginning with the X-ray.

The general practitioner cannot expect as much benefit from the X-ray proper as either the surgeon or the skin specialist, but he will more than balance the account with the high-frequency current. In one case I have treated for albuminuria the urine was entirely clear after a few treatments over the kidneys with a large Machlette body electrode, and the attendant eye symptoms, giddiness and general malaise also disappeared. As to the permanence of the result I am unable to say, as only a few months have elapsed, but the patient is working and in apparent health at this writing. In another case the result was not so good, as there is still a trace of albumin in the urine after several weeks' treatment; in every other respect, however, he is apparently perfectly well. The albuminuria is of long standing. Some five or six years ago I used the Harris segregrator in this case and found a large amount of albumin in the urine from each separate kidney.

In insufficient action of the kidneys and where the specific gravity is low, the amount of urine will be increased and the specific gravity brought up to normal by even a single treatment with the high frequency. The results obtained are so much better than with any other treatment as to give great promise.

I have treated one case of infected gall-bladder with splendid success. My personal belief is that all these cases of infection of the gall-tracts, with or without gall-stone, should be operated on as soon as diagnosed and the stones removed and the gall-bladder drained, but in this case an extremely weak heart, together with unfavorable circumstances, prevented my doing so. The patient was so much reduced as to be unable to leave the house. He had a horribly fetid breath, which could only be made bearable by the free administration of acetozone. He had icterus, an enlarged gall-bladder, with pain radiating to right shoulder blade. Under high frequency treatments all symptoms became better, the skin cleared, also the foul breath; the swelling in the region of the gall-bladder went down, the circulation improved, the stomach symptoms disappeared and he is now comfortable, and goes about as he pleases. In this case I do not believe the beneficial effect to be due to the destruction of germs; neither can the current dissolve gall-stones, but aside from the tonic effect on the general system the high frequency current has a drying effect on the production of mucus. The general practitioner, as well as the gall-bladder surgeon, is beginning to learn that mucus, wherever found, is a culture-medium for bacteria. For the same reason, viz., that the rays do not destroy tubercle bacilli in the lungs, we would not expect, and I have not found, X-ray or high-frequency cur-child. After emptying (possibly tamponing) the uterus, bleeding is no longer of any consequence, and it is completely stopped when the sutures have been placed. In the presence of well marked uterine atony vaginal hysterectomy must be considered.

The danger of sepsis is not greater than in any other obstetric operation, and, in a thoroughly-equipped and well conducted lying-in hospital, sepsis ought not occur. The danger of an infection from a uterus already septic is much less in vaginal than abdominal hysterotomy. In the former the abdominal cavity is not opened at all and the wounds of the uterus and vagina may be left unsutured, in part or entirely, for the purpose of drainage. In cases of septic infection, too, after a careful consideration and mature deliberation of all the features of the case (as severity and duration of illness, age and number of previous births), the source of infection may be at once removed by resorting to total extirpation of the uterus immediately after the child and placenta have been delivered. Duehrssen states that this was successfully done by Doederlein in a man, thirty-eight, xl-para, associated with prolapse and beginning septic infection.

Subsequent examinations of patients upon whom vaginal Cæsarean section had been performed revealed such insignificant cicatricial changes in the vaginal vault and cervix that one, not informed of the fact that an operation had been done, would never suspect it.

Duehrssen and Wennerström report each a case which show that vaginal Cæsarean section has no ill-effect upon subsequent labor. The former delivered, three years later, one of his patients of a living child with balloon dilatation of six hours' duration; the latter observed a spontaneous labor two years after the operation.

Duehrssen recommends the radical vaginal Cæsarean section, especially in cases of carcinoma coli, and performs the operation as follows: After a thorough spoon-curettement of the neoplasm and crusting of the surface, thus exposed, with the Paquelin cautery, the vulva and vagina are effectually disinfected, and, if the vagina is very narrow, an episiotomy is made. The stump of the cervix is then seized with two bullet-forceps, which, in turn, are displaced by "string-bridles." The cervix is now severed from the vagina by a circular incision and a longitudinal cut in the anterior fornix is added to enlarge the opening. The tissues thus laid bare are separated from the uterus anteriorly and posteriorly and the peritoneal fold in both places is pushed out of the way. The uterus is now divided before and behind, as already described. After the child and placenta have been delivered, the incisions into the uterus are continued in both places until the uterus is split into two halves, whereby, of course, the peritoneal cavity is invaded. During the splitting process the two halves of the uterus are successively grasped with bullet-forceps, dragged down, and, when the division is complete, pulled out, and, after the ligation of the broad ligaments, cut away.

It will be noticed that, after the uterus has been evacuated, the operation does not differ from the Peter Mueller method of performing vaginal hysterectomy. Notwithstanding the large size of the uterus, the wounds and the placental site, hemorrhage is not excessive, because firm traction upon the uterus during the operation closes the afferent vessels.

INDICATIONS FOR VAGINAL CÆSAREAN SECTION.

Duehrssen enumerates and comments upon the indications for vaginal Cæsarean section as follows:

1. Abnormities of the cervix uteri and lower uterine segment which make dilatation of the cervix very difficult or impossible, such as carcinoma, myoma, rigidity, stenosis, and partial sacculatory dilatation of the lower part of the uterus.

2. Conditions threatening the life of the mother which are improved or entirely disposed of when the uterus is emptied. For instance: Diseases of kidneys, lungs and heart.

3. Conditions which will, inevitably, terminate in death of the mother.

4. For the benefit of the child alone, when insufficient dilatation of the cervix is present and hystereurysis or deep cervical incisions promise no success.

The indications given under one and two are to be considered only when the cervix is closed and not dilatable; or when, as in cases of disease of the heart and lung, it is in the interest of the mother to suspend the action of the uterus.

Duehrssen insists upon the radical vaginal Cæsarean section when it is apparent that the carcinoma is confined to the uterus. The operation is indicated as soon as the diagnosis of cancer is established, no matter what the period of gestation, and in eclampsia he urges the immediate conservative vaginal hysterotomy. He adds: "Pursuing this course, artificial premature labor is entirely avoided."

Excluding cases of marked pelvic contractions, Duehrssen characterizes the advance made by his vaginal Cæsarean section in obstetric surgery in these words: "We are now able to empty, very quickly, the uterus of its contents at any period of pregnancy or labor per vaginam, without the aid of uterine contractions, and, if the period of viability has been reached, a living child may be secured. In the presence of neoplasms, the uterus can be readily extirpated through the vagina, immediately after the vaginal hysterotomy."

According to the indications given by Duehrssen, his operation has been performed quite often and several times there was a combination of indications in single cases.[1] Thus:

Richard Brown v. Fernwald operated for cicatricial degeneration of the cervix and vaginal vault following typhus.

Spinelli and Ehrendorfer, for uncontrollable vomiting, cicatricial degeneration and a high degree of rigidity of the cervix.

Simon, for cicatricial stenosis of the cervix following amputation of the portio vaginalis.

Ungaro, for disease of the heart and cicatricial stenosis of the cervix.

Ruehl and Simon for excessive rigidity of the cervix.

Regnoli, for painful edema in the posterior wall of the cervix and fever the result of abortus criminalis.

Ruehl, Regnoli, Bumm, Duehrssen and Everke, for excessive and dangerous hemorrhage resulting from ablatio placenta.

Duehrssen operated upon a patient in articulo mortis and delivered a living child.

Bumm operated for heart disease and nephritis.

Bumm and Everke, for chorea gravidarum,

Proubasta, for septicemia.

Regnoli, for sacculation of the anterior uterine wall, the result of an artificial os in the anterior uterine wall, made for the relief of cervical atresia following a severe labor.

Wennerström, for retroversio uteri gravidarum cum incarceratione.

Bumm, in two cases, for torpidity of the uterus following premature labor.

Duehrssen, for attenuation of the lower uterine segment, the consequence of a flat pelvis and large child.

Because of the almost complete absence of danger in vaginal Cæsarean section, Duehrssen believes it proper to give this operation the preference over deep cervical incisions in all of those cases of imperfect or insufficient dilatation of the cervix in which metreurysis or his own deep incisions of the cervix are apt to fail and thus result in the possible loss of the child. He states that vaginal hysterotomy and deep cervical incisions become rival operations in all cases where the portia supravaginalis is entirely effaced, but in which the portia vaginalis rests, in the form of a more or less broad rim, against the presenting part. The selection of either operation will depend upon the impressions the operator has received in his past experience with deep incisions of the cervix. The latter will, probably, be the method preferred in all cases in which the presenting part is found deep in the pelvic cavity, and when upon the introduction of specula naught but the rim of the cervix will be revealed. It is different when the head is still high up. Here vaginal Cæsarean section would he of decided advantage; first, because it renders superfluous difficult high-application of the forceps; secondly, in cases where the lower uterine segment has been greatly attenuated, version becomes devoid of danger because the tension is relieved by the incisions into the uterus. For these reasons, all based upon his own experience, Duehrssen pleads for a certain restriction of his deep cervical incisions.

Thus the fourth indication given above will considerably increase the sphere of application of vaginal hysterotomy, as it rents curative in pulmonary or local tuberculosis, although it is greatly beneficial in these affections. I believe we do not pay sufficient attention to the proper enervation and blood supply in these cases, but hope to cure the disease only by destroying germs.

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[1] See "Der Vaginale Kaiserschnit," by A. Duehrssen, Berlin, 1904.

The Edison aseptolin treatment will destroy tubercle bacilli, but it will not cure consumption. Among several cases which I treated with these injections was one of tuberculosis of the larynx. The microscopic field was full of tubercle bacilli at the beginning of the treatment, but day after day as I examined it while giving the aseptolin injections the tubercle bacilli disappeared. Finally they were all gone, but the patient followed the usual course and died in the usual way. My experience has been that cases may go for years with tubercle bacilli in the sputum. If the production of mucus is not great, X-ray and high frequency currents will dry the moist membranes and check the moist râles in the lungs. All X-ray workers know from personal experiences how dry the nostrils and fingers become if the exposures are excessive. I believe that the suppression of the production of mucus by the X ray is a great stride in advance in the radical cure of disease, as the mucus is a culture-medium for bacteria. High-frequency currents also exert a tonic stimulant action on the blood and nerve currents, and so are of inestimable service.

In regard to tumors, several years ago I had injected a small tumor with a weak solution of cocaine preparatory to its removal. While waiting for local anesthesia and watching the intense congestion of the skin which attended the action of the drug, I was called to an emergency case. I delayed the operation, telling the patient to return the following day, when, to my surprise, the tumor seemed decidedly smaller. I decided to continue the injection treatment, using ½ per cent. solution of cocaine. The tumor reduced gradually to one-third its original size, and then remained stationary. I next injected a hypodermic syringeful into the sack of a large hydrocele. In twenty-four hours it had reduced to one half its former size and did not refill so rapidly as before. I tried the injection in a number of tumors, and all were benefited temporarily. Occasionally one was entirely absorbed. The results I attribute entirely to stimulation of the local blood and nerve supply. In not one of these cases did the patient know what he was taking. The high-frequency current will stimulate the blood and nerve supply just the same, with the addition that the effect on the system is general as well as local, and we also have the possibility of destroying germs as well.

The value of X-ray work in treating lupus is so well established that I will not go further in the subject, except to mention that W. J. Morton cautions the practitioner against using a dusty tube while treating raw surfaces. In X-ray work all depends upon the interpretation of the screen, and it is only natural that the skilled anatomist and pathologist will see more than a less-instructed brother. Detail work with the fluoroscope is at first disappointing, but gradually shades and outlines become more and more distinct, just as one becomes familiar with a landscape, until its details can be observed at a single glance.

In regard to the effect of X-ray on the eyes, the author has been afflicted for years with opacity of the cornea of the left eye, so dense that nothing could be seen of objects except a shadowy outline. Since handling the X-ray the opacity has gradually cleared until objects which were before indistinguishable can now be readily outlined.

DISCUSSION.

Dr. Edward H. Shields, Cincinnati: Instead of being of value to the general practitioner, the general practitioner would be better off without the use of the X-ray. Especially is this the case in the smaller cities. Some years ago a very prominent surgeon remarked to me that before he had the X-ray and he was called in to treat a fracture, he did the best he knew how, but since we have the X-ray he now sees his mistakes, but at the same time he is not able to rectify many of them, and still he must put the bones in the best possible apposition and then be satisfied with the results he gets.

The X-ray, like many of the new discoveries, it was thought would revolutionize medicine and surgery. But as time goes on we find its sphere of usefulness becomes less and less every day. I have been doing a great deal of X-ray work the last few years, but every year I find my work becoming less because we are able to get along without its use and get the same results. Some years ago it was heralded throughout the world that the X-ray relieved pain, and that after the first or second application the pain of carcinoma would disappear. I claimed the credit of being the first to put myself on record with the statement that the X-ray does not relieve pain. That statement I made before the Academy of Medicine about three years ago. I rayed a case of tic and the pain disappeared in a few minutes. I was highly elated. But the pain soon reappeared. I have rayed cases of sciatica with the same result. I think we can say the X-ray is only of value to detect fractures and foreign bodies, and there its field of usefulness ends. In the treatment of the various cutaneous diseases, we can get the same result in about the same length of time by other methods of treatment, with perhaps one exception, namely, lupus. We advise the X-ray in epithelioma because the patient fears the knife. But why should we tinker around five or six or eight weeks to remove a small papilloma when we have plenty of tissue and could incise the growth and have the patient perfectly well in a short time? I have treated nine cases of epithelioma, but it was only because the patients refused operation. I have treated cases of acne and cured the acne, but my patient got something far worse. The patient would have gotten rid of her acne, but I left her with a permanent pigmentation, which she will carry to her grave. My results were not the result of ignorance nor of carelessness, for every precaution was taken. Only the other day I saw a patient, 19 years of age, with a skin as shriveled as an individual of 103. She came to me after the damage was done by another man and I told her that nothing could be done for her. I am satisfied that the X-ray will not cure an eczema that cannot be treated by other methods. The other methods may take longer. If eczema is due to a germ—and we do not recognize the monococcus of Unna—the X-ray does not destroy the germ. By simply running the machine without a tube and allowing the patient to stand six or eight inches from the wire, just far enough so the current will not arc across, you can secure the same results as with the glass electrode.

Dr. James E. Coleman, Canton, Ill., in closing: Our friend tells us it is not a good idea to have a good view of the bones because you will know too much. I think knowledge is better than ignorance and if we can see the bones when setting the fracture, we will be much more likely to get a good result. I did not say much about that because the general practitioners do not have so much setting of bones to do. But the surgeons seem very much pleased with it. As to the permanent discoloration in acne, isn't that due to the scars caused by the comedones that were mutilated?

Dr. Shields: No, sir.

Dr. Coleman: You know that may be done by the comedones in a short time.

Dr. Shields: It is now two years since the scars were produced.

Dr. Coleman: You will find it will pay much better, financially and every other way, and will not damage the patient's skin, if you use short sessions and many of them. I do not think the doctor had a high frequency current.

Dr. Shields: I use a high frequency current, but no electrode.

Dr. Coleman: It is the electrode that gives the result, and that probably explains the fact you are losing faith.

THE NEED OF A PHYSICIAN IN CHARGE OF THE HYGIENE OF OUR SCHOOLS.

BY HUGH M. MOORE, M.D.,
OXFORD, O.

The object of this paper is to show the value of a physician in charge of and controlling the hygiene of our schools, both public and State.

A physician should be appointed for each institution, with the authority to act regardless of politics or private influence; he should be a man well trained, for such position opens a wide field for "preventive medicine," a term used to express the practical application of the medical sciences, and to day we are more concerned in the prevention of disease than in the giving of drugs to cure the disease brought about by wrong living and abuse of the laws of health.

Why should a medical man be connected with our schools and colleges in an official capacity, and of what value may he be to student and teacher?

To-day we believe in a broad education, teaching those studies which go to make the young man or woman a good citizen, possessed of a healthy mind and capable of dealing with questions of home, State or business in a scientific manner.

I think all will grant that a healthy mind (not genius) depends on the physical conditions present; this mental activity depends on heredity, environment and learning; the seed must be good, the soil good, and, lastly, cultivation to bring about the required results.

Oliver Wendell Holmes has said that in order to treat a child successfully we must start two hundred years before the child is born. Now, in order to make that start for the benefit of succeeding generations, let us begin to-day teaching our young people so they may reach a higher plane of physical cultivation, in order that heredity, the first step, may be benefited, environment improved, and lastly, the learning that the present generation receive will make the foundation of a broad liberal education.

It has been held by some of our best authorities that no child should enter school without a certificate from a medical man as to the condition of health. The physician appointed for each school should have a room suitable to examine entering pupils, and each child should be thoroughly examined, not only the eyes, but also the ears, for many children suffer the stigma and abuse of their teachers for being dullards when the real cause is a partial deafness, which might be benefited if recognized.

The period from six to sixteen is the usual age of our school children, and this period is the one most prone to the infectious diseases and to tuberculosis, especially bone tuberculosis. The physician in charge, seeing a child with a suspicious limp, or resting the body in peculiar positions, could examine and find the cause, thus saving many a child from months of sickness and pain, and ofttimes the child punished by the teacher for wrong doing would be recognized as a degenerate, either mental or moral, and by proper treatment to the weak or diseased mind the child would become a useful citizen instead of a criminal.

Ventilation is also of great importance, and the janitors should be carefully trained to see that the buildings are ventilated properly and the temperature maintained, for many cases of catarrh and tonsillitis are directly traceable to improper ventilation.

Dr. Wm. Osler says 1,200.000 people in the United States are afflicted with tuberculosis, a disease whose contagiousness we are only beginning to appreciate, and the only way to free ourselves is to isolate and treat the incipient cases. These are foci of infection, and as such should be stopped, not to their detriment, either, for these are the very cases that receive the most benefit by treatment, but never while confined in class-rooms or bent over books in a dust-laden atmosphere.

From the age twelve to sixteen the child undergoes the greatest increase in height and weight. During this period the sexual instinct develops, with its concomitant nervous manifestations, which prove so harmful to many if not cared for in a proper manner. I believe—and I think many will concede—that the strain of examinations, added to that of menstruation, is often the cause of a girl becoming weak, anemic and perhaps an invalid.

At this time the moral training should begin, and who is better fitted than the physician to explain the phenomena of sexual life and restrain the abnormal tendencies brought about by ignorance and mystery?

In connection with the above it might be pointed out that the physician could best fill the position of hygiene, instead of having that most important subject debased by teaching from text-books by persons ignorant of the important adjuncts —physiology and pathology.

I find by experience that our young people are pitiably ignorant of what I will call "self," and a few little talks by the man they are taught to confide in would set right all those mysterious functions of the human body which have proved the cause of much anxiety to many children. As a teacher, give talks on food and clothing, for many pupils are injured by improper attention to these things.

and would not come to school burdened with heavy food or clothing if they had been told them it would do them harm.

The physician could, and ought to, determine whether acts of wrong doing were caused by the "nagging" of teachers or inherent badness which would be punishable, and perhaps he ought to determine what the punishment should be, for often the pupil is made to suffer because the teacher has a headache or a violent disposition.

It is too bad that the Section on Hygiene is being neglected by the members of the American Medical Association, for what asepsis is to the surgeon I think hygiene is to the physician, and that the subject is neglected by our students and colleges is shown by the poor results at the different State examinations.

The subject of hygiene is one that must of necessity be studied in quiet, and lacks the stimulus of the operating-room with admiring friends and spectators; but the time is here when the physician telling his patients that malaria is caused by a poison from the ground or typhoid by a hot, dry summer will lose patronage and the confidence that belongs to him, for the laity is quick to understand the questions of contagion from the daily papers and periodicals.

How quick parents are to keep their children at home if a case of scarlet fever breaks out in the school! But if they had the confidence and knew that every precaution would be taken to sterilize the rooms the schools would be able to carry on the work undisturbed. During two epidemics of scarlet fever and one of typhoid that occurred at the large schools in Oxford, not one pupil left the school, for the physicians took every precaution to isolate and sterilize the rooms, and explained the subject so plainly to the schools that confidence was restored, and what might have proved a serious hindrance to the schools only served as a lesson in practical hygiene.

Above all things, do not try and make the students think that the vile odor of carbolic acid is protection against infection, for common sense will tell them that one bad odor does not protect against another; but if they learn the joy of living in clean rooms we will find the results later in life in their homes, offices and places of business.

It is not my purpose to show the relative values of different forms of heating apparatus or school furniture, for such things would best be decided by the needs of different schools; but if I can show that the schools have an intimate and growing need for the physicion my purpose will be accomplished.

Last June while in Atlantc City I had a talk with one of the leading medical men of the country about this same subject, and was astonished at the interest and enthusiasm shown; in fact, he said the day was not far distant when every school would be obliged to have a physician in charge, and that some of the larger institutions were already employing them to care for the welfare of their students.

Miami University, with Dr. Benton as president, recognized the need of such an arrangement, and an explanation of the method employed may be of interest. At the beginning of the year each student passes a physical examination. If any deformity or disease exist he is directed how to live his life to the best advantage. Finally a short talk is given on the immoderate use of tobacco and alcohol. A few words of caution against the great social evil, which is winked at by many as a necessary one, proves that boys often commit the sin through a desire to see for themselves what they hear so much about. And many of the boys have thanked me for cautioning them about the danger they run of contagion by such license.

Excuses are given the girls from any or all duties during their menstrual period, with benefit to their health and ability to perform the necessary work, for they will not ask a professor to excuse them, and often have been rendered ill by trying to keep up all their duties.

Several students with marked signs of incipient tuberculosis have been advised to leave school and try to overcome the disease, for the benefit to themselves and protection to their fellows.

In conclusion, I believe that if each one of us would try and put the subject before our school boards and the public in a plain, straightforward way, the time would not be far distant when all educational institutions would be under the direct control of physicians in the matter of hygiene, to the great improvement of the schools and a broadening of the education of our young people.

Society Proceedings.

OHIO VALLEY MEDICAL ASSOCIATION.

OFFICIAL REPORT.

Sixth Annual Meeting, Evansville, Ind., November 9–10, 1904.

DR. FLOYD: The sixth annual meeting of the Ohio Valley Medical Association will please come to order. Permit me to introduce to you Dr. Hayden, of Evansville, our President. (Applause.)

PRESIDENT HAYDEN: As it is impossible for our Mayor to be here, he has sent another in his stead, and we will now have the address of welcome by City Attorney Funkhouser.

MR. FUNKHOUSER: Mr. President, Ladies and Gentlemen: I am sure you are the losers by reason of the Mayor's inability to be with you this morning, and welcome a body of men like yourselves to our city. However, on account of his indisposition, I am here delegated with the authority to welcome you to our city.

Between yourselves and me, I think there are good reasons why the Mayor should not be present, on account of the recent happenings which are still clear in our minds.

I do not think it is necessary to welcome the Ohio Valley Medical Association to the city of Evansville. You must know in advance that we are not only glad but delighted that this body should honor us with their presence. I shall not enter into a eulogy of the profession of physicians and surgeons, but, like lawyers, you are in love with your profession. It is a fact that it takes a man who has an interest in the science and practice of his profession to make a success, and he does not then follow it as a commercial pursuit. This explains many things, because of the interest and love you take in your profession. You have made great advancements in saving life and doing away with pain. You are with us in the beginning and also at the close. We could not do without you. We need you in our business. The doctor gets closer to the hearts of the people than anyone else, and while it is true that mankind owes you a large balance on the ledger, we owe you a larger balance of gratitude and kindness.

We welcome you, gentlemen, to our city, and we hope that your future sessions may be with us. (Applause.)

PRESIDENT HAYDEN: The next thing on the programme is an address on behalf of the medical profession by Dr. F. O. Davis, President of the Vanderburg County Medical Society, of Evansville, Indiana.

DR. DAVIS: Mr. President and Members of the Ohio Valley Medical Association: You have heard the former kind remarks of the City Attorney, and it devolves upon me, as President of the Vanderburg County Medical Society, to say a few words to you in the opening exercises of this meeting.

Replying first to the City Attorney, I wish to say we accept, with thanks, the privileges offered, and promise you that we will be on our good behavior most of the time while in your city.

Gentlemen: I understand that we have some distinguished visitors from other States and cities. I want to say to you, and to them, that you are all welcome guests of the Vanderburg County Medical Society. You will find that the best feeling prevails among the doctors here. All belong to the same societies. We meet in consultations without lowering the standard of either school. We meet in our societies as earnest seekers of truth, where no one is asked to surrender or abandon a previous conviction, and where, I may add, no one would be worthy a place if he did.

We want to give a little evidence of our kindness to you, while we take much valuable information from your papers and discussions. We recognize the fact that the science of medicine is a progressive one, and that among the newer fields now being worked, where truths are found to be irresistible curative forces, sometimes when our best selected remedies have failed, may be mentioned the X-ray, the violet ray, radium, similia, massage or vibration, suggestion, psychology. On the highest point of an elevated imagination, these truths stand as beacon lights, directing the wandering theorist of to-day to a safe landing point where to-morrow he may launch his bark upon the starless sea of investigation; where it is possible a thinkable reality may be evolved from the chaos of the realm of the unexplored. The decade marking the closing of the nineteeth, including our experience of the twentieth, century, is—

"The cycle of a change sublime,
Still sweeping through."

One hundred men or more are here
Held by a cord that seldom breaks;
Wrapped tightly round their friends at home,
From whom they earn their breakfast steaks.

Each bent to know the other's trick,
Just how it is that he should be
The first one called to see the sick,
Where every man thinks—look at me!

The magnet draws with perfect east,
And draws the sick to beat the band;
Sometimes to him who knows the least,
Because he shows a clever hand.

Sometimes, because a friend has said
That Doctor John or Jim or Joe,
Will cure you quick if you're almost dead,
I know he will—he says it's so.

But ten to one the undertaker
Will hold the cord to draw him there,
When Doctor B. or Mc. or Baker,
Gives up the case in despair.

Thus scenes of past come flitting by
As doctors gather here and around;
Now this or that, no matter why,
We're glad we're still on top the ground.

To you this welcome I extend
With grasp of hand and warmth of heart;
Expressing more than words can tell,
Accept it then and go to work.

(Applause,)

PRESIDENT HAYDEN: We will now have the report of the Committee on Arrangements.

DR. FLOYD: Our programme covers two days of work and one evening of recreation and pleasure. We have a long programme, and we would be pleased if anyone present would assist us in getting through with the meeting, conducting it with promptitude and dispatch.

I wish to ask you, in the first place, to please limit yourselves to five minutes, for if you will look over the programme and make any calculations you will see that it is impossible to complete the programme without doing this.

All of the day sessions will be here in this room. The evening session is one of recreation and pleasure. I presume that all of you have an invitation card that will admit you to the evening session. This is to be held in Evans Hall, three squares from here, due west. At this meeting you are expected to be present. If you desire a seat on the main floor you must have an invitation. The gallery will be open for the public, so that everyone who desires may attend the evening session.

After the address by Dr. Reed, of Cincinnati, Evansville will try to show her hospitality and give a nice banquet, which will be followed by pleasures for the young folks.

I have been asked by several what kind of a garb they were to wear, and whether or not they should wear dress suits or not. I would just like to say for you to wear what you please. Some will wear dress suits and some will not. I will not have on one myself, but I presume the President will. And I suppose there will be others with dress suits on besides the President, and others that will not; so you will not be alone either way.

I think this is all I have to report at this time.

PRESIDENT HAYDEN: We will now have the report of the Secretary-Treasurer.

SECRETARY-TREASURER: Mr. President, Members of the Ohio Valley Medical Association: I wish to state to you that this Association was financially embarrassed until I came to Evansville this morning. I have been reimbursed a little bit. Possibly this is due to the election. I don't know.

Balance in the treasury amounted to .	$1 00
Dues collected for 1903 . .	91 00
Making a total of	$92 00
I sent Dr. Floyd, of Evansville, a check for	89 50
(For which I have given account here).	
June 10. By receipts printed at Journal office	$1 50
June 10. By stenography account for copy-reports	1 00
	$92 00

Dr. Floyd makes the following report:

May 1. Received check from Secretary	$89 50
Money Expended:	
Envelopes	3 75
Programmes	13 50
Postage	23 00
Use of hall, etc.	25 00
Total amount of expenses the Association should pay . . .	65 25
Balance due A. J. Lieber, Secretary	24 25

Minutes of previous meeting were as follows:

NOVEMBER 12, 1903—MORNING SESSION.

The fifth annual meeting of the Ohio Valley Medical Association, held at Evansville, Indiana, November 12–13, 1903, at Y. M. C. A. Hall. Dr. Benjamin L. W. Floyd, President of the Association, called the meeting to order, and introduced the Honorable Major Covert, who delivered an eloquent address of welcome in behalf of the city of Evansville. Dr. Charles Hartloff, President of the Vanderburgh Medical Society, responded to Mayor Covert's address. Dr. A. J. Lieber, Secretary and Treasurer of the Association, made his annual report, which was accepted by the Association. Dr. T. L. Lockart, of New Harmony, Indiana, read a paper upon the "Use and Abuse of Quinine in Malaria." The discussion was led by Dr. Monroe and followed by Dr. Stearnes and other members of the Association. Dr. T. J. Shoemaker, of Morganfield, Kentucky, read a paper upon "Smallpox, the Importance of an Early Diagnosis and the Best Way to Stamp it Out Quickly." The discussion was led by Dr. J. H. McCutchan, Dr. Gilbert and Dr. Hendershot. Dr. Hayden made a motion ——— and ballot upon new members. Motion was seconded by Dr. Lieber. The names of the new members were read by the Secretary, and he was ordered to cast a ballot for same. Meeting adjourned for lunch.

AFTERNOON SESSION.

Meeting called to order by Dr. Benjamin L. W. Floyd. Dr. Brooks F. Beebe, of Cincinnati, Ohio, read a paper, "Insanity, What is It and What is the Treatment?" Paper was discussed by Dr. Sterne and other members of the Association. President appointed the following committees: Committee on Publication and Finance: Dr. J. R. Eastman, Indianapolis, Indiana; Dr. Charles H. Hartloff, Evansville, Indiana; Dr. Cyrus Graham, Henderson, Kentucky; Dr. Brooks F. Beebe, Cincinnati, Ohio; and Dr. J. Monroe, Louisville, Kentucky. Committee on Credentials: Dr. C. T. Hendershot, Cannelton, Indiana; Dr. J. W. Stone, Henderson, Kentucky; Dr. L. Worsham, Evansville, Indiana; Dr. W. T. Stevens, Owensboro, Kentucky; and Dr. T. J. Shoemaker, Morganfield, Kentucky. Dr. Palmer Findley, of Chicago, Illinois, read a paper upon "Gonorrheal Infection of Women." Paper was discussed by Doctors Graham, Beebe, Walker and Hayden. Dr. August Schachner, of Louisville, Kentucky, read a paper upon "Operations of Prostate Glands, with Report of Two Cases." Discussion was general. Dr. George J. Monroe, of Louisville, Kentucky, read a paper upon "Rectal Diseases, or the Evolution of the Rectal Specialist." Discussion was general.

NOVEMBER 13, MORNING SESSION.

Meeting called to order by Vice-President Dr. J. W. Stone. Committee on Applications for Membership reported names of members. Dr. Graham made a motion that members be accepted whose names were recommended by the committee. Motion was carried. Committee on Publication reported that same be left with Dr. Floyd, to use his judgment in selecting an organ for the publication of the reports of this Association. Report of committee was received. Committee on Credentials reported that applications for membership must be signed by two of the members of the Association. Dr. Floyd made a motion that the Secretary and President-elect be authorized to have the by-laws and constitution of the Association printed. Dr. Hayden moved that the Secretary be allowed $50.00 per year. Motion carried. Dr. Graham moved that we vote by ballot. Seconded and carried. After a lengthy contest, the following officers were elected for the ensuing year: President, Dr. A. M. Hayden, Evansville, Indiana; First Vice-President, Dr. J. W. Stone, Henderson, Kentucky; Second Vice-President, Dr. C. T. Henderson, Cannelton, Indiana; Third Vice-President, Dr. August Schachner, Louisville, Kentucky; Secretary and Treasurer, Dr. A. J. Lieber, Henderson, Kentucky; Board of Censors, Dr. B. F. Beebe, Cincinnati, Ohio; and Dr. Rose, of ————————. Drs. Monroe, Stephens and Coleman were appointed on a committee to draft suitable resolutions upon the death of the following members: Dr. C. C. Lewis, of Owensboro, Kentucky, and Dr. Cottingham, of Robards Station, Kentucky. Dr. Walker Schell, of Terre Haute, Indiana, read a paper upon "Operative Methods in Placenta Previa." Discussion was general. Dr. H. R. Allen, of Indianapolis, Indiana, read a paper upon "Plastic Conditions of Bone." Discussion was general. Dr. Graham, of Henderson, Kentucky, read a paper upon "Chronic Prostitis. Discussion was general. Dr. C. T. Hendershot, of Cannelton, Indiana, read a paper upon "Medical Organization." Discussion was general. Dr. W. B. Moore, of Crider, Kentucky, read a paper upon "Induction of Labor." Discussion was general. Dr. J. Y. Welborn, of Evansville, Indiana, read a paper upon "Some Remarks and Symptomatology of Renal Tuberculosis." Discussion was general. Dr. L. D. Brose, of Evansville, Indiana, read a paper upon "Epistaxis and Its Treatment." Discussion was general.

There being no more members present who were on the programme, motion was made and seconded that the Association adjourn *sine die*.

————————,
Secretary.

PRESIDENT HAYDEN: You have heard the report of the Secretary-Treasurer. What is your pleasure!

DR. FLOYD: I move you, Mr. President, that it be adopted as read.

DR. DIXON: I second the motion.

The motion was voted upon and carried.

DR. HAYDEN: We will now have the report of the Standing Committees.

DR. FLOYD: At the last meeting of the Ohio Valley Medical Association, held in Evansville, November 12 and 13, 1904, the President appointed the following Committee on Publication and Finance: Drs. J. R. Eastman, Indianapolis, Ind.; Chas. Hartloff, Evansville, Ind.; Cyrus

Graham, Henderson, Ky.; J. Monroe, Louisville, Ky.; and Brooks Beebe, Cincinnati, O.

The question of an official organ for the Association had been discussed some by a few of the members before the meeting of the Association, and three medical journals — *American Practitioner and News*, of Louisville, Ky.; LANCET-CLINIC, of Cincinnati, and *Medical and Surgical Monitor*, of Indianapolis, Ind. —submitted propositions for the position. Some of the propositions were indefinite, and naturally the various members of the committee looked at the propositions from different standpoints, and an agreement as to a selection seemed to them unwise without more detailed information from the respective journals, and recommended that the question be referred to me after the adjournment of the Association, and that I be empowered to act and select a journal as our official organ for the ensuing year. I accepted the responsibility of such an undertaking with some reluctance, for fear that my judgment might prove disastrous to the organization.

After the adjournment of the Association a correspondence with the editors of the two journals between which the committee differed as to the one the Association should select, and after passing several letters and with a consultation with our President, Dr. A. M. Hayden, and laying the entire correspondence before him, with his consent and advice the Cincinnati LANCET-CLINIC was selected as the official organ for the Ohio Valley Medical Association on the following terms:

1. The LANCET-CLINIC is to print on cover leaf "Official organ of the Ohio Valley Medical Association," and is to publish all our papers, and report that was made of the recent meeting, free of cost and give the essayist 100 reprints of his paper and supply as many more as he desires at actual cost.

2. The subscription price of journal to members is to be $2.00 per year, and the editor is to assume all responsibility of securing subscriptions and collecting the fee.

3. Dr. Hayden and myself agree to use our influence in trying to work up an interest in the journal among the membership and by this means enable the journal to secure as many subscribers as possible.

4. This contract is to be in force until the next meeting, November 9 and 10, 1904.

While public acts are always subject to more or less criticism, will say that in this case I never acted more unselfishly, and believe that time has proven the wisdom of making the selection. The Ohio Valley Medical Association was second in a list of ten medical associations that have adopted this journal as their official organ, and only recently another national medical association, much older than our organization, has acted likewise and followed in the footprints that our Association made a year ago.

EVANSVILLE, IND., December 10, 1903.

DR. J. C. CULBERTSON, Editor Cincinnati LANCET-CLINIC, Cincinnati, O.

Dear Dr. Culbertson: Your letter received several days ago, but it was impossible for me to reply earlier, and for this unavoidable delay please accept an apology.

If I understand the gist of your offer it is as follows, and if I do, on behalf of the Ohio Valley Medical Association, I accept your offer of the Cincinnati LANCET-CLINIC to become the official organ of this Association for the ensuing year.

1. The LANCET CLINIC is to print on cover "Official organ of the Ohio Valley Medical Association," and is to publish our papers, and the report that is made of recent meeting, free of cost, and is to give the writer of paper one hundred reprints, and to furnish as many more as he desires at actual cost.

2. The subscription price of journal to members of the Association is to be $2.00 per year, and the editor of journal is to assume all responsibility of securing the subscriptions and collecting the fee.

3. Dr. Hayden, President of the Association, and myself agree to use our influence in trying to work up an interest in the journal among the members, and by this means enable you to secure as many subscribers as possible.

4. This contract is to be in force until the next meeting, November 9 and 10, 1904.

BENJ. L. W. FLOYD,
On behalf of the Ohio Valley Medical Association.

J. C. CULBERTSON,
Editor LANCET-CLINIC.

PRESIDENT HAYDEN: You have heard the report. What shall we do with it? I hardly believe it is necessary to take any action on it. The next number on the programme is "Cataplasms; Their Use and Abuse," by Dr. T. J. Shoemaker, of Morganfield, Ky. I wish to say, gentlemen, that he is the founder of this organization.

Cataplasms: Their Use and Abuse.

DR. SHOEMAKER (applause): Mr. President and Gentlemen of the Ohio Valley Medical Association:

I want to talk to you about cataplasms, their uses and abuses. Cataplasms or poultices have been used in the practice of medicine for quite a while. Almost everything that will hold heat and moisture has been made into a poultice. Flaxseed meal makes a good emollient poultice and has been considered a favorite over any other kind of a poultice. If properly made it is a very fine application for all kinds of inflammations where heat and moisture are needed.

When I first began to read medicine it was thought that heat and moisture were the only essentials for a poultice, and that one of the best ways to obtain it was to wring flannel cloths out of hot water. The rule was to have two or more flannels and wring them out alternately, keeping the parts warm all of the time, not permitting the flannels to get cold. At that day and time wounds were treated with flax-seed meal poultices so long as there was any inflammation, and when the inflammation had subsided to apply simple cerate to the wounds.

In the absence of anything better it has been known for a long time that clay and apple vinegar mixed and applied will reduce inflammation, and also prevent it from running high in sprained joints. Earth moistened with water will stop the ill effects of a bee sting and the sting of other insects, and thus keep down inflammation. I suppose it is the alkali in the dirt that does the work.

For the last decade many of the chemical manufacturing companies have been making and recommending earthen poultices as being aseptic and antiseptic. The Denver Chemical Manufacturing Company have put up and are putting up a preparation under the name of antiphlogistine. Several preparations are put up by different manufactures. All are pretty much the same. One is composed of aluminum, silicate, glycerine, boric acid, menthol, thymol, eucalyptus, and ammonium and iodide. It is claimed to be antiseptic and detergent. It is said to be soothing when applied, and designed to supersede poultices, and possesses antiphlogistic properties. I have used this application in inflamed surfaces. All redness and soreness disappear quickly. From all of the above preparations I have obtained good results. I have used antiphlogistine perhaps more than any of the poultices, and I have always gotten good and prompt results in reducing inflammations about the hands and feet. I have applied it from day to day in abscesses on the palms of the hand, and I have gotten through with my cases better than when I used the old manner of flax seed poultices. I always get better results and have less lancing to do about the hands, and the hands are left in a more natural shape, less stiffening about the hands and fingers. I have frequently used antiphlogistine in bronchial pneumonia in children under two years of age with happy results. The patient always improves from the first application. My manner of using is to cut two pieces of cotton cloth to fit the lungs perfectly, so that they will completely cover both lungs, and then I spread the poultice about one-fourth of an inch thick and warm it before the fire before applying. I grease over both lungs with white petroleum first, to prevent the poultice from sticking to the body. They will then come off readily when you wish to renew them. After I apply the poultice I use a cotton-lined cheese-cloth jacket over all. I leave the poultice on twenty-four hours, or even thirty hours. I then remove and apply a fresh poultice. I continue to do this from day to day until my patient does not need it longer. As I have said, the patient will begin to improve from the first application.

I also treat larger patients and adults for pneumonia and bronchitis with the antiphlogistine poultice, and I always get good and prompt results. I also use this poultice for inflammations, for frost bites, for bruises and wounds where the pain seems to run up the limbs toward the body. The pain will decrease from the first. I had a patient that had home treatment for frost bites of the feet. She had applied the tincture of iodine until she could not rest. Antiphlogistine poultices reduced the swelling and stopped the pain in twenty-four hours. The rest of the treatment was simple.

I had a friend that had home treatment for colic. He had been blistered over the stomach and bowels with mustard until he was a sight to behold. He could not sit, lie or stand in any peace. I applied a poultice of antiphlogistine, and in a very short while he was off into a quiet and refreshing sleep. His mother-in law, who had an eye to business, had some fingers on the right hand that could not be relieved. Her suffering had been intense and protracted. It occurred to her to apply the antiphlogistine to her fingers. The next morning, to her very great surprise, she found a great number of briars sticking out of her fingers. She could take hold of them and extract them. She then called to mind that she had been handling cactus plants during the season.

Well, gentlemen, I hope I have not made you tired, and I shall wind up by saying that sloppy poultices are worse than no poultices at all. In fact, a patient will grow worse under their use.

Gentlemen, I thank you for your kind attention.

President Hayden: Is Dr. J. B. Weaver in the house? If not, the discussion will be general. Dr. Sippy, will you open the discussion?

Dr. Sippy: I did not expect to say anything about this subject. There is no question but what poultices have value, and I think that the use of poultices in certain conditions is much neglected here in this country. It is more than it should be. There are a lot of applications that have a decided value. They are used more in Europe than in this country. For instance, in bronchitis or pneumonia, and various affections of the bronchial tubes and lungs, there is no question but what heat properly applied is very soothing. I wish to speak more particularly on the use of heat in bronchial affairs. In diarrhea there is nothing that will initiate peristaltic action in the bowels more quickly than a hot poultice. I think this is something we are inclined to overlook too much, and depend more on the use of opiates than we should. The use of the poultice applied to the abdomen in the case of diarrhea is very beneficial, and most cases can be controlled by absolute rest in bed and the use of hot applications continued throughout the day, and a diet that is not irritating, made of gruels of rice or meal, and possibly one egg stirred in perhaps, and give the patient five or six ounces of gruel every three hours, and absolute rest in bed, and apply the hot applications to the abdomen; and there is nothing that will help the diarrhea or give the patient comfort quicker than that combination. Of course, the rest has a great deal to do with it. There is no doubt but what continued heat is very soothing, and the peristaltic action of the bowels and diarrhea will be relieved very quickly by this application. I do not wish to say more.

President Hayden: If there are any more discussions we would be pleased to hear them. Has anyone anything to offer?

Dr. Heimann: I would like to hear something about cold applications under similar conditions from the different doctors.

President Hayden: The subject is now before you, and we have plenty of time to discuss it if anyone wishes to say anything further. If no one wishes to say anything further we are ready for the next number, "The Therapentic Uses of Gastric Lavage," by Dr. M. G. Moore, Vincennes, Indiana. Is Dr. Moore in the room?

Dr. Dixon: Dr. Moore is not present.

President Hayden: We will now pass on to the next topic, "The Use of Normal Saline Solutions in Surgery," by Dr. L. G. Bowers, of Richmond, Indiana. Is Dr. Bowers in the building? It seems that he is not in the room. That is all that we have on the programme for this morning's session, and unless we wish to go over I think we had better adjourn for luncheon. If there are no objections the meeting will stand adjourned until 1 : 30.

(There were no objections and the meeting stood adjourned until the time specified.)

THE ACADEMY OF MEDICINE OF CINCINNATI.

Meeting of January 16, 1905.

The President, S. P. Kramer, M.D., in the Chair.

Samuel Iglauer, M.D., Secretary.

Dr. E. Gustav Zinke read a paper (see p. 192) entitled

Duehrssen's Vaginal Cæsarean Section and Deep Cervical Incisions.

DISCUSSION.

Dr. James Rowe: I am very much pleased to discover that I once made a vaginal Cæsarean section, although at the time I did not dignify it by that name.

It was in a case that had had the cervix amputated for cancer. The patient was pregnant, and in labor. I knew this because I could feel the uterus contract. I could not find the os. Finally I found far back a little ragged opening surrounded by cicatricial tissue, through which the amniotic fluid was escaping. As I did not know about this method of Duehrssen's I took a herniotomy knife and succeeded in making a cut through the scar tissue. After I had cut a certain amount the head began to come down, and I then applied forceps and pulled the child through. The mother walked out of the hospital, with the child, alive and well, three weeks afterward.

DR. MAGNUS TATE: I feel very sure that the subject which is brought before us to-night by Dr. Zinke is very timely. It considers one of the operations which, in my opinion, has come to stay. I believe that operators doing gynecological and obstetrical work are carefully considering the Duehrssen operation. A paper that I am going to read before the Academy next month deals with eclampsia, and one of the treatments advocated is vaginal Cæsarean section. The cases related by Dr. Zinke from Duehrssen's paper, in which there was difficulty in applying forceps, and where Cæsarean section was first made, I do not believe will be accepted by the profession at large as proper treatment. I can hardly see the indication for the Duehrssen operation unless in exceptional cases, where we had an extremely rigid os, and where there was great difficulty in the application of the high forceps, or making of a version.

Dr. Miller, of New Orleans, read a paper on the subject of vaginal section, and reported a number of cases with good results. Dr. Carstens, of Detroit, reported good results in the treatment of grave cases of eclampsia treated by vaginal Cæsarean section. Dr. Stamm, of Fremont, also reports cases, and it seems to me that any one who is competent to do a vaginal hysterectomy and operative work along the line of obstetrics and gynecology should be able to perform a vaginal Cæsarean section without difficulty. In my opinion this is one of the best operations lately brought before the profession. The danger of sepsis in this operation ought not be greater than in any operation on the vagina at the time of labor. We can always have a septic field if we are not careful in the use of our instruments, cotton, gauze, and ligatures.

DR. WM. GILLESPIE: How are we to have the assurance that the freedom from sepsis is going to be as great as the report. Reference to other procedures of this kind shows that where a tear of the cervix extends into the cellular tissue there is a grave possibility of sepsis. How we would have such absolute freedom from sepsis when the cellular tissue in the neighborhood is so thoroughly opened up, and the peritoneum in front and behind exposed, I cannot comprehend. A great many of the indications as laid down in the paper I would be inclined to doubt the wisdom of. I have had no experience in such an operation, but all of us have had experience in the handling of ordinary cases of placenta previa. In many cases of this kind when the foot is secured and the breech brought down hemorrhage ceases. It always ceases unless a rupture has occurred during the dilatation of the cervix. If the cervix is torn uterine sinuses will be opened, and hemorrhage will continue until the uterus is emptied. I would like to have it explained to me how free incision of the cervix is going to be exempt from hemorrhage in placenta previa. Years ago the rule was laid down, when ordinary incision was advocated, that placenta previa was one of the contra-indications to incision of the cervix, so I would feel very much afraid of such an extensive incision in the lower portion of the uterus where the placenta is attached in the lower zone. You cannot make traction and bring down the uterus at this stage of the game as you can in vaginal hysterectomy. Have any of these cases been thus treated, or is it a theoretical application of the operation?

DR. W. D. HAINES: This operation impresses me as being a logical one; however, we feel a little doubtful about the simplicity of it, except in the hand of a master, and this in the sense that "knowledge simplifies all things." In a well-regulated hospital, in the hands of the essayist, or in the hands of a man who has performed this operation, I believe it would be very safe, and at the same time a life-saving operation. If placed in the hands of other men, without hospital surroundings, I believe it would be a very dangerous operation. We are indebted to

Dr. Zinke for the careful way in which he has prepared his paper.

Dr. J. Ambrose Johntson: Abdominal hysterotomy will always have its field, although the vaginal route may be well suited to some cases. When surgical asepsis determines the route into the uterus the abdominal will offer a safer way than the vaginal. As to the time consumed in either operation, the abdominal is just as if not more expeditiously done than the vaginal. It takes no longer to sterilize the abdomen than the vagina; it takes no longer to open the abdomen than it does to incise the perineum; it takes no longer to incise the uterus above than it does below; the child and placenta can be extracted more rapidly from above than through the vagina; the uterine wound and abdomen can be closed as quickly as the cervical wounds. The abdominal route gives a better view of every step of the operation than the vaginal. As hysterotomy is most frequently performed for pelvic contracture and placenta previa, it would seem that vaginal Cæsarean section would have a very limited field.

Dr. Zinke: This operation should always be done by one familiar with work of this kind. There can be no question about this. A man who has little or no experience in this work should not attempt the operation. If he is not able to get the help of someone who knows how to do it, he should resort to one of the old methods, if he is familiar with them, and sacrifice the child rather than the mother, or both.

Dr. Tate evidently misunderstood when he states that vaginal Cæsarean section is supposed to take the place of the high forceps. Duehrssen distinctly says that when we have a greatly attenuated lower uterine segment it is better not to resort to the high application of forceps or version, as, under these circumstances, it is apt to result in rupture of the lower uterine segment; to make the vaginal Cæsarean section instead, and then resort to forceps or version and extract; because, as soon as the incisions have been made, the tension ceases and the lower segment becomes lax.

Dr. Gillespie is very pertinent in his remarks, but I think that a man of his experience and intelligence ought not to ask how to prevent sepsis under these circumstances. In a majority of instances he speaks of the tear is not discovered until the cause of sepsis is looked for. There is a distinct difference between the healing of an unknown tear and a clean incision the extent of which is known and followed by prompt suturing as soon as labor is completed. Theoretically speaking, it is perhaps impossible to render the parturient tract absolutely sterile; but, practically, this is not always necessary to obtain a good result. I do not know of a single case in which vaginal hysterotomy was made for placenta previa. Concerning the fear of hemorrhage from the uterine sinuses in the lower uterine segment, it may be said that it is based mainly upon theoretical grounds. The same objection has been urged against abdominal hysterotomy for placenta previa. Yet not a single case is on record in which the patient died from this cause. Nobody would think of performing the classical Cæsarean section after she is nearly bloodless and otherwise injured by previous futile attempt at delivery.

In reference to Dr. Johnston's remark that abdominal section can be done by an expert as quickly as the vaginal operation, cannot be doubted. In the vaginal section, however, you do not penetrate the peritoneal cavity, and whenever we can avoid this we should do so. A vaginal Cæsarean section may be done with a considerable degree of safety on the part of an experienced operator in the private home, where he can secure, approximately at least, a fairly aseptic condition.

I think the vaginal Cæsarean section is a marked forward step in the advance of operative obstetrics. It is an operation that has come to stay, and its significance and usefulness will be more and more realized and appreciated the more it is understood and practiced.

The House Committee on Interstate and Foreign Commerce are at present considering two bills to ameliorate the condition of lepers. One bill provides for the establishment of a sanitarium for the care of the 275 lepers of this country, the sanitarium to be situated in the Northwest, the other for the appropriation of $150,000 for the scientific study of the disease in Hawaii.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, FEBRUARY 18, 1905.

THE PRESENT STATUS OF THE QUESTION OF CONGENITAL MISPLACEMENT OF THE HIP.

Whenever a new treatment is advanced for the cure of a disease or condition hitherto considered irremediable, the reception which it meets with on the part of the profession is either one of unqualified enthusiasm and support, on the one hand, or cynical skepticism or complete refusal to believe in its merits, on the other. *Der mensch* is so constituted that he refuses to occupy a middle ground and wait for events to demonstrate the value or worthlessness of a new measure. Were it not ever thus many men who arrive at fame or notoriety through their advocacy of new and untried methods would remain in comparative, even though undeserved, obscurity.

It is nothing more than right that the discoverer of a new method of surgical or medical treatment should reap a substantial reward in fame and emolument, but it is desirable that his disciples should temper their enthusiasm with judgment.

Three years ago the degree of *reclame* which attached to a method of treating congenital misplacements of the hip, a condition which to the majority of the profession was up to that time almost, if not quite, unheard of, awakened an interest in the subject which has not even yet subsided. That the interest in this subject was disproportionate to its importance counted for nothing. Men who had never heard of a congenitally misplaced hip flocked to learn how to do a stunt that had aroused the admiration of a continent. Just as a number of years ago when a celebrated New York specialist came out in advocacy of a new and bloodless method of treating hemorrhoids, every young man, anxious for immediate distinction, proceeded to invest in a kit of rectal instruments for the treatment of piles by injection of carbolic acid, so with the same misdirected zeal a still-hunt was entered on for old, unrecognized, and neglected cases of congenital misplacement of the hip when a distinguished Transatlantic confrère had demonstrated the ease and certainty with which these displacements might be reduced and the benefits to be derived by the patient and physician from such treatment. From that time to the present the journals have been flooded with reports of misplaced hips successfully treated by the bloodless (?) method.

But three years have brought with them their accumulation of experiences with this method, and we are now in a position, from a careful analysis of successes and failures, to arrive at a calmer and more dispassionate judgment as to its value. There has been no disposition on the part of the writer to deprecate the value of this new method of treatment, nor in any way to reflect upon the distinguished surgeon who stands sponsor for it. There has been on his part no effort to exaggerate its successes or minimize its failures. It is, on the whole, perhaps a fortunate thing that the widespread agitation of this subject has enabled us to arrive at conclusions based upon the observations of many eminent and experienced operators in this line of work.

Among other things, we have learned to modify our first impressions as to what constitutes a successful result by this method. We have learned that the number of anatomical repositions—that is to say, reductions—of the misplaced head into the cavity of the acetabulum is a varying proportion, varying often in direct ratio with the persuadibility of the operator as to the completeness of the reduction.

Until recently we had supposed that verification of results was to be easily obtained by skiagrams, but it would seem from "latest advices," as our commercial friends say, that skiagrams are not reliable guides as to the real position of the head of the femur after reduction, it being admitted even that in certain cases it is a matter of some doubt whether there is any head left to the femur. It would also appear that in certain cases the skiagrams show the head apparently within the acetabular cavity, whereas clinical evidence establishes the fact that it lies in a position of anterior transposition, or, as Lorenz would prefer to have us call it, "reluxation forward," or "subspinous position." Numerous arthrotomies seem also to have pretty fairly established the fact that hour-glassing of the capsule is a matter of such common occurrence, especially in cases where the child has walked, that it would be difficult to conceive of the femoral head being forced to retrace its way through the narrow isthmus and entering the acetabulum without the interposition of a layer of capsule.

While this interposition of capsule is admitted to have an important influence on the prevention of complete anatomical reductions, we are told that if the head be brought down opposite the acetabular cavity and the thigh be flexed and abducted at right angles, or placed in what Lorenz calls "*primär Stellung*," or "primary position," the functional weighting will cause by pressure the gradual thinning and disappearance of the interposed capsule. It is quite evident from this that the capsule cannot be expected to play any part in prevention of reluxation, but we must depend for this on the shortened ischio-trochanteric muscles, or so-called obturator muscles. The opportunity for reluxation under such conditions is manifestly great.

In traumatic luxations of the hip, efforts at reduction are directed to the end that the femoral head, which has escaped through a rent in the capsule, may be made to retrace its steps, and, re-entering the torn capsule, find its way back into the acetabulum.

In congenital misplacements there is no rent in the capsule unless brought about by efforts at reduction, but the capsule is hour-glassed, so to speak, and the isthmus, or, more properly, the strait connecting the part of the capsule which invests the head and that about the circle of the acetabulum, is too narrow to admit of the passage of the head. Hence, interposition of the capsule. Interposition of the capsule, of course, means incomplete anatomical replacement.

We need not, however, despair if unsuccessful in our efforts at reduction, for we are assured that in some cases where the head has not been reduced the results have been functionally more satisfactory than in others where anatomical reduction has been effected. This is certainly encouraging from one standpoint, if not quite so reassuring from another. If we do not succeed in effecting anatomical replacement we console ourselves by the assurance, "there may be an anatomic replacement with the less perfect result that occurs in another case where there is no anatomic replacement. A functional result and perfect anatomic replacement have no direct relation." On the other hand, we are deprived of that sense of elation which we are apt to feel at the successful reduction of a misplaced hip when we reflect that functional results might be quite as good if not better without it.

With regard to the methods used in reduction, Dr. Lorenz deprecates the use of mechanical means, such as the Boston machine. He says: "In the case of children under the age limit the manual reduction is, at it were, playfully easy (*sic*) and without exertion, so that the use of any such machine appliances (Boston machine) seems to me superfluous, to say the least."

The objections which Lorenz makes to the use of the machine do not appear well grounded. Last summer the writer was present, at the invitation of Dr. Ridlon, when Mr. Bartlett, of Boston, used his machine on a case of double luxation. The case had been previously treated by Dr. Ridlon with a successful result on the left side but an unsuccessful one on the right. He was much impressed with the ease with which the machine effected what with manual effort must have been a matter of great difficulty. In proper hands the Bartlett machine would seem to be an instrument of great precision, and the lever attachment, by means of which the trochanter is pried up, is certainly an ingenious and valuable contrivance. Far from preventing the palpation of the parts, as objected by Dr. Lorenz, it seems to me it enables the operator, while traction and abduction are being effected by the machine, to estimate to a nicety just what is being effected and by the freedom left to his own hands to enable him to control more accurately the reposition of the head.

As to results, Lorenz reports "363 unilateral misplacements, in which 218 gave anatomical good results, 127 showed subspinal positions, and 19 lateral appositions. Out of 158 cases of bilateral misplacements, 70 showed good anatomic results on both sides, 19 resulted in subspinous positions on both sides, 7 showed lateral appositions on both sides, 49 resulted in anatomically good results on one side while the other side became subspinous; in 4 cases one side became anatomically replaced, while the other side showed lateral apposition; in 9 cases one side was subspinous, the other lateral apposition. Taking all the hips together (364 + twice 158 = 680), 358 of these show good anatomic results, *i.e.*, 52.6 per cent., a good half of the cases."

Hoffa reports "400 cases of congenital dislocation of the hip, of which 315 have been discharged from treatment for a period of at least one year. All of these 315 cases have been examined within the last month. X-ray pictures have been taken, careful examinations made and exact notes taken on these cases. Of the 315 cases, 250 were unilateral and 65 bilateral dislocations. Of the 250 cases of unilateral dislocation, real anatomic restoration was obtained with perfect function in 75 cases, so that the children walked like normal children. This amounts to a real cure in 30 per cent. of the cases. In 160 cases, or 64 per cent., we obtained only an anterior transposition of the head by the use of the bloodless method. One hundred and ten of these cases—that is, two-thirds of the 160 cases—show an essential improvement over their former condition. In 40 of the 160 cases the function of the leg is not satisfactory; in 15 cases, amounting to 6 per cent. of the unilateral cases, we found a complete reluxation of the head in its old position."

Hoffa considers the cases of anterior transposition with good function as good results, so that of the 250 cases, 185, or 75 per cent., are considered as successful results. It will be seen, then, that anterior transposition with good function are considered as successful cases. This is the position taken by all prominent orthopedists. A posterior reluxation is, of course, a failure

Dr. Hoffa's method of reposition differs from that of Lorenz in that he effects it in many cases by successive efforts.

Hoffa thinks that in cases that have not passed the age limit (eight to ten years in unilateral and six to five years in bilateral cases), reposition may be effected in a large number of cases by successive stages. "If there is a high degree of shortening and great rigidity of the part, I never force the reposition, but bring the result about gradually. Sometimes at the first setting the head can be brought down only to the brim of the acetabulum, and fixed in this position by a plaster-of-paris bandage, the leg being abducted and rolled outward as much as possible. After a week reposition is again tried, and it is often surprising how easily this may then be accomplished. If the dislocation cannot be reduced at the second trial, the limb is again fixed in the obtained position, and after some time another trial is made. All forcible manipulations are to be avoided, because no benefit is to be derived from such treatment, and often very great damage is done even if the dislocation be successfully reduced. Before the age limits given the reduction can usually be accomplished without much difficulty."

I have quoted as much as the limits of this review will permit of this most interesting contribution. After reposition the treatment seems to vary with the operator, some advocating the frog position of Lorenz, others—Bradford, for instance—being opposed to this method as favoring anterior repositions. Others—notably, Dr. Harry M. Sherman—are opposed to the bloodless method altogether, on the ground that it is productive of incalculable mischief—paralyses, avulsion of the epiphysis, fracture of the neck, and what not—but chiefly objecting that in these days of aseptic surgery it is eminently unscientific to do in the dark what may be effected more safely, surely and accurately with the aid of the sense of sight by an arthrotomy.

There is much that may be said in favor of his position, and little that can be argued against it, save the ever-present possibility of infection. In view of the large proportion of functionally successful results obtained by methods which, from the fact that they entail no cutting, must appeal to the laity, it is hardly likely that unless in the hands of inexperienced and ill-advised operators the number of accidents should bring the so-called bloodless method into disrepute, that it will be supplanted by the more accurate, but certainly more formidable method of open incision.

It is to be regretted that the space accorded to an article of this nature will not permit the writer to enter into more detailed discussion of what must, for a long time to come, be a much-debated question. C. E. C.

THE CINCINNATI MEDICAL LIBRARY ASSOCIATION.

A few weeks ago there was published in this journal a report of the first year's work of this association as detailed by its officers. On the whole, the library has every reason to be proud of the progress that has been made. Not alone the profession, but a number of laymen, have become interested and in a manner well illustrating their zeal, financially, so that the association, in spite of rather heavy expenditures, has been able to keep within the bounds of its income. A very important factor is that the library rooms are kept open continuously from 9:00 in the morning to 5:30 in the afternoon, a condition of affairs which is not in evidence in the City Hospital Library. For the benefit of the uninitiated, it might be stated that the two libraries, through the courtesy of the Board of Trustees of the Cincinnati Hospital, are at present occupying the same rooms. Some thirty new journals additional to those of the Hospital Library have been subscribed for and placed upon open shelves so as to be freely accessible to all readers. A large number of books, pictures and historical relics have been donated through the generosity of the profession, and the officers of the association wish to make the public statement that any gifts in this line will be very acceptable. Nearly every physician has upon his shelves books which to him have outgrown their usefulness, but which would be of the greatest value to a medical library. Within two or three years the City Hospital will be removed to the suburbs of the city, and an important question confronts the physicians of Cincinnati: What will become of the Hospital Library, which has heretofore been so accessible? Will it be removed as well, or will there be selected a site in the heart of the city? This is a problem of considerable importance, and one which has already attracted the attention of the Library Association. In order to be in position to meet it the association must grow, and members of the profession who have not already done so are urged to co-operate most earnestly and in a material way with this valuable adjunct of our city's medical growth. It is to be hoped that the time is not far distant when the Academy of Medicine, with its valuable collections, the City Hospital Library and the Medical Library Association will be housed under one roof.

EDITORIAL NOTES.

Dr. H. D. Hinckley has been elected Dean of the Cincinnati Polyclinic and Post-Graduate Medical School.

Dr. G. C. Altemeier has been appointed district physician to the Twenty-second Ward in place of the late Dr. A. J. Hofling.

The new Pittsburg municipal hospital for contagious diseases has just been thrown open for the reception of patients.

Dr. E. S. McKee, of this city, has been requested to recommend a young physician as assistant in a hospital in Egypt, for the period of two years. There will be a small salary and traveling expenses. He would be glad to hear from applicants. The best moral as well as professional references are requested.

Scarlet fever has become epidemic in Syracuse, N. Y., seventy-four cases having been reported for one week, with three deaths.

Academy of Medicine.—At the next meeting, Monday evening, February 20, the subject of "Penetrating Wounds of the Eyeball," will be considered by Drs. Robert Sattler, F. W. Lamb and W. J. Taylor.

Report of the Bureau of Infectious and Contagious Diseases for the week ending February 10, 1905:

Disease.	Cases.	Deaths.
Measles	1	0
Diphtheria	6	5
Scarlet Fever	8	2
Typhoid Fever	22	6

For the remainder of the school year medical inspection of schools will be performed by the district physicians. They will be subject to call from the principals of the schools in the districts in which they reside to investigate all cases of illness which are thought "suspicious," and will immediately advise principals and parents as to what is necessary. Their inspection will include not only such disease as diphtheria, scarlet fever and allied affections, but communicable skin and scalp diseases as well. This first step is but preliminary, it is hoped, to a system of thorough medical inspection to be put in force after the present year.

The Nathan Lewis Hatfield Prize for Original Research in Medicine.—Five hundred dollars will be awarded by the College of Physicians of Philadelphia to the author of the best essay submitted in competition on or beford March 1, 1906, subject, "The Clinical and Pathological Diagnosis of Sarcoma." Essays must be typewritten, designated by a motto or device, and accompanied by a sealed envelope bearing the same motto or device, and containing the name and address of the author. They must embody original observations and researches. The committee reserves the right to make no award if none of the essays submitted is considered worthy of the prize. Further information may be obtained by addressing Dr. Francis R. Packard, College of Physicians, 219 South 13th street, Philadelphia, Pa.

JOSEPH EICHBERG, M.D.
MARK A. BROWN, M.D.

Medicine.

WM. MUHLBERG, M.D.
H. W. BETTMANN, M.D.

Reciprocal Relations of Heart and Kidney Lesions.

Bronowski (*Presse Medicale*, December 21, 1904) calls attention to the reciprocal relation of heart and kidney disease, and bases his conclusions not only upon post-mortem findings in human cadavers dying of heart disease, but by a series of experiments upon animals. He believes that any interference with the heart circulation will in time so modify the composition of the blood as to produce stasis in the kidney, depressing the vitality of the latter and thus favoring disease as elimination of toxins by the kidneys becomes difficult or impossible. These toxins being stored up in the body naturally react upon the heart, establishing a vicious circle. The practical lesson is that not all attention is to be directed toward the heart, but that the kidneys should be treated as if nephritis were already established—that is to say, as little work as possible should be thrown upon these organs. On the other hand, when there is disease of the kidney heart complications are to be feared, and treatment should aim to throw as little work upon this organ as is consistent. The chief aim in both classes of cases should always be an attempt to regulate the circulation.

M. A. B.

X-Ray Treatment of Leukemia.

Ledingham and McKerron (*London Lancet*, January 14, 1905) report the case of a boy, aged eleven, suffering from leukemia, spleno-medullary form, upon whom the Roentgen ray was used with marked benefit. Previous to the institution of treatment, the white cells numbered 234,000, with 48 per cent. of myelocytes, while the spleen caused great distention of the left of the abdomen, extending, indeed, two inches to the right of the median line, while inferiorly it almost reached the pubes. Within six weeks the white count had dropped to 23,000, while the reds had increased almost to normal. The proportion of myelocytes steadily diminished and the neutrophiles increased, though at no time did the blood resume its normal differential condition. The spleen gradually reduced in size and became softer and the abdominal measurements diminished by over two inches, the boy in the meanwhile gaining over twelve pounds in weight. While at the beginning of the treatment he was bedridden, in six weeks he was able to walk about, and even up and down stairs, without discomfort.

M. A. B.

Cryoscopy of Cerebrospinal Fluid in Epidemic Cerebrospinal Meningitis.

J. H. Bailey (*Medical Record*, February 11, 1905) has made a cryoscopic study of sixty-nine specimens of cerebrospinal fluid, and though the results are not yet available for practical purposes they have scientific value. Using T as a symbol for the total freezing point of the cerebrospinal fluid, some of the conclusions reached are as follows: Upper limit of T is 0.815; lower limit, 0.50; a variation of 0.315. The vast majority of cases, however, 79 per cent., ranged from 0.52 to 0.64, a variation of only 0.12. Average T is 0.575, very close to the normal freezing point of blood. T oscillates much less than the freezing point of urine. The The greater part of T is due to the sodium chloride content. T varies not only in specimens from different cases, but also in specimens from the same case at different times. T is not of any prognostic significance; some of the patients that recovered showed a high T, others a low T; while the same is true of several cases that terminated fatally.

M. A. B.

The Lancet-Clinic

A Weekly Journal of Medicine and Surgery.

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NEW SERIES VOL. LIV. FEBRUARY 25, 1905. WHOLE VOLUME LXXXXIII.

CONSUMPTION AND ITS BORDERLAND—PUBLIC AND PROFESSIONAL CONCERN.*

BY PAUL PAQUIN, M.D.,
ASHEVILLE, N. C.,
Member of the American Medical Association, Mississippi Valley Medical Association, Tri-States of the Carolinas and Virginia, North Carolina State Medical Society, Buncombe County Medical Society; Honorary Member of the St. Louis Medical Society; Honorary Member of the Ohio Valley Medical Association.

Notwithstanding the gigantic advancement of medical science from the time of Hippocrates, particularly in the last half century, the mortality due to tuberculosis remains practically in the same ratio in most countries as it was then. A fifth or so of the death-rate still occurs through its ruthless effects. It is still the most widely scattered, the most prevalent, and the *one* perpetual plague universally. It still consigns to the tomb more people than the slaughter of war in all its atrocious forms. The death-roll of all the wars of the nineteenth century is estimated at 14,000,000,[1] and that of consumption in the same period and countries at 30 000,000. Germany, which seems to have the most comprehensive and reliable mortuary statistics, in reports for 1894 (which in all essentials apply to all civilization), shows that 116,705 persons perished that year in that country from the results of the following infectious diseases: Diphtheria, croup, scarlet fever, whooping-cough, measles and typhoid fever, and that consumption *alone* killed 123,904, *i.e.*, 7,199 persons more than the six other scourges together!

Besides this disheartening destruction, consumption is a formidable world-wide problem from the viewpoint of economics, for it affects not only the young, who are unproductive, but 75 per cent. of its victims are among self supporters, bread-winners of families and the helps of the nations—men and women from the age of fifteen to seventy.

Our country's yearly death-rate by it is approximated at 160,000. It invalidates, on the average, each victim at least one year. My experience inclines to two, during which each subject is unable to work or produce. Of these invalids, perhaps one-fifth are not wage-earners and have incomes continuing while sick. The remaining four-fifths lose their previous daily revenue. If we estimate that all of the latter are too ill to earn anything for one year, and that each of them was previously earning one dollar a day three hundred days a year, what does it represent in yearly loss?—$38.4co.000! If the average length of invalidism is two years it means a loss of $76,800.000. These are flat losses of income. Other losses in the form of expenses for medicines, physicians, nurses, traveling, dietetics, funerals, etc., would aggregate as much, perhaps, but they merely change hands and therefore benefit somebody.

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[1] Richet.

* Read by invitation before the Ohio Valley Medical Association, Evansville, Ind., November 9–10, 1904.

Yet we live in the midst of this frightful devastation with equanimity, we witness the daily horrors and the cruel sufferings it engenders all about us with calm unconcern. If smallpox arises we take to the woods; if scarlet fever, we barricade our families; if diphtheria, we almost abolish the breathing of our children for fear they might inhale its germs, but we allow with indifference the seed of consumption to be sown in our homes, in our schools, in our stores, in our churches, in our play-houses, in our public buildings, in our public conveyances, on our sidewalks—everywhere—and we breathe infected air with stoic indifference; we eat from infected dishes without a thought of danger; we view the whole appalling situation with the callousness of the fatalist.

Why is the world so strangely apathetic with regard to this, the very gravest and most comprehensively destructive of all the ills of mankind? First, because the majority of the medical profession continues to consider tuberculosis, particularly pulmonary consumption, as incurable in any event. Second, because this circumstance and the lack of instruction in sanitary science in our system of education has produced a public mental attitude of wanton optimism. Third, because there remain here and there a few who reject facts of infection mathematically demonstrated the world over and continue a public crusade in favor of their mistaken ideas. Fourth, because when tuberculosis is recognized the truth is often concealed so long from the patient and relatives that the former loses precious chances of recovery and is allowed to disseminate the disease broadcast. Fifth, because, by the marriage of consumptives, prolific new centres of infection with far reaching fatal influences reinforce the popular idea of unavoidable pathogenic perpetuity. Sixth, because the diagnosis of the disease, in the great majority of cases, is made too late for any measure of prevention or cure to be effective.

The last of these causes is of the greatest moment of all, perhaps, for, if it were eliminated, the others mentioned would in a measure naturally disappear and the balance be removed by degrees. When the profession at large, in every country cross-roads and in more populous centres, becomes in a position to diagnose tuberculosis prior to appreciable reduction of the defensive vital forces in man, probably 80 per cent. of tubercular patients will be afforded curative opportunities in time for salvation. Then its members will realize that this disease is not necessarily fatal, that it is controllable and therefore the public should be instructed in the laws of prevention. The doctor will no longer shrink, or fear (from an ultra sense of ethics, perhaps), from appearing before a lay audience to teach how to avoid consumption, or to instruct the teachers, if not the little ones in our schools, on the principles of practical hygiene. Then, with the strength of his conviction and his experience, he will go to the lawgivers or be one of them himself, and have weight in pleading for legal enactments looking to the immediate control and eventual effacement of the plague from the face of the earth.

It is evident, if what precedes is true, that the concern of the public and the profession in tuberculosis should be greater than it seems to be. And, as physicians, with daily opportunities for observation, with continual chances to give proper advice, we owe it to ourselves and the people to earnestly endeavor to arrive at that acute sense of perception, available to most practitioners, which makes for good diagnosis early, without the presence of classical symptoms, or at least without having before our eyes symptoms that can be read at ten paces. Of course, this demands close application, diverse clinical opportunities and aptitude, but all of these conditions are in a measure at the command of most doctors in their own practice, where, after all, they can, under present circumstances, find the best lessons. The medical schools do not as yet afford a satisfactory kind of education to train one in the very early diagnosis of consumption, nor of any constitutional malady for that matter.[1]

Judging from superficial appearances and the prevalent notions of the day, one is not inclined to credit the assertion of high authorities that most everybody is tainted with tuberculosis, yet there are extant numerous reliable data to support it. Professor Naegeli, of Zurich, for instance, in special researches on cadavers brought to the grave by causes other than tuberculosis, failed to find a single one above thirty years free from scars of this malady. In such cases the lesions consisted chiefly of fibro-cretaceous transformations (nature's process of healing tuberculous points). Mainly the glands in the lungs and the ganglia of the mediastinum were involved; occasionally, too, the kidneys, the liver, and even the brain.[2] The same author demonstrated, also by autopsies, the general existence of tuberculous lesions in 90 per cent. of bodies eighteen to thirty years of age; 50 per cent. in those fourteen to eighteen; 38 per cent. in children five to fourteen, and 17 per cent. in children one to five.

Now these data, which are supported by others equally reliable in various countries, and which are not foreign to the experience of many of us with dissecting material, not only show the extent of the disease, but indicate clearly its curability at different stages. Blumer and Lartigau, in giving their results of five hundred consecutive post-mortem examinations, show that healed pulmonary tuberculosis occurs in 4 to 100 per cent.

We should certainly take the gist of these reports as proof that tuberculosis is not always as rebellious as we think and as the public believes. If nature unaided can cure so many cases, could she not cure more if we assisted her in her own line of action in fighting the infection? Could we not add much to her activity by even the mere application of proper hygienic measures if we knew the existence of the affection at its very incipiency? Could not, then, the physiologic agencies coming under the head of nature's defensive powers, as the vaccinating toxins, the serums and other products of the kind, have a more generally happy effect than in the advanced cases, in which we not infrequently succeed in spite of the fact that we generally have to combat the armies of a dozen different poison-forming microbes? Would not all of the usual applicable treatments be more commonly useful?

These are questions worthy of most serious consideration and investigation, questions which abroad are receiving more attention and those publicly engaged in their solution less discouraging criticisms than here.

Modern science teaches that infectious and constitutional diseases are the result of poisoning and its consequences by toxic products generated in the system; (*a*) by the toxins of micro-organisms in the tissues or blood; (*b*) by products of microbes —*ptomaines*—evolved from the food ingested, and hence in the alimentary canal; (*c*) from nocive substances—*leucomaines*—formed by the cells constituting the structure of the body itself, when they fail to be properly eliminated. Indeed, after thorough consideration of morbid entities and the study of pathogenic substances found under various conditions in cellular products, we can scarcely escape the conclusion that all such maladies are primarily the result of irregularities in metabolism of cellular nutrition, which is thereby "either retarded, or accelerated, or perverted." Consequently, judging from these premises, we may say with Hericourt that infectious and constitutional deviations from the physiologic line are in their essence disorders of nutrition.

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[1] The medical college that will establish a competent chair to teach the pathology and clinical factors of the borderland of disease will confer a blessing on the profession and humanity, for it will do immediate good and soon be emulated. This sphere of medical science, including physiologic conditions as they taper down and change to pathologic states, and which have been explored only by few, contains the very germ of knowledge for the early diagnosis of all diseases affecting the constitution, and could be treated in a most interesting manner without in any way interfering with, but rather supporting or supplementing, the regular course on the principles and practice of medicine. A dozen or two of good, practical lectures would be of immense advantage to students and physicians alike.

[2] Hericourt, "The Frontiers of Disease."

But why should the cells maintain their equilibrium of metabolism to-day and fail to-morrow? This question brings to the mind the controlling and guiding force of the organization, to-wit, the nervous system. It is this system which presides over the functions of nutrition, the production of heat, the repair of damages, the generation of new cells, the glandular secretions, the elimination of waste matters and poisons, the various defensive faculties of the body existing in the serum, the phagocytes and their alexins, etc., etc. Composed of the most sensitive and intelligent cells of the marvellous aggregation which in their union constitute the human structure and form, it suffers first and most and becomes weakened if not incompetent by the effects of poisons introduced into its midst. It matters not whence came these poisons, whether from alcohol or drugs, the fermentation or decomposition of food or beverages, the growth of microbes or cell life phenomena in the structure, the nerve elements are banefully influenced.

Then the organs which the nerve forces direct and command fail more or less in their duties. It is reasonable to say, therefore, that, after all, diseases due to toxic products occur because the nervous system becomes incompetent to maintain proper nutrition and elimination. And it should be borne in mind that very naturally this insufficiency may vary greatly in degree, and that, therefore, innumerable shades of intensity in a given infection will result.

Tuberculosis is no exception. We must proceed, then, in the study of its borderland and the disease when developed with the understanding that there is no straight or clean-cut line of demarkation between health and disease; that, instead, there is a tapering margin between the former and the latter, often with so slight a decline, indeed, as to give absolutely no warning that health is slowly sliding into the realm of ill health, and that inefficiency of nerve power is largely responsible.

We hear much of pretubercular states nowadays. They are defined as systemic conditions favorable for the growth of tubercular germs—fertile soils, in other words—and we are asked as physicians to prevent tuberculosis by altering them. These states are approaches to, or perhaps the beginning of, the borderland of tuberculosis, when the germ is grafted.

The borderland is the vague state of undeveloped infection. Its boundaries are laid when the seeds are sown. After the appearance of any of the characteristic symptoms of the disease we are in the domain of consumption. Did the nervous system continue always to control and direct all the organs of the body, so that each would unceasingly fulfill its particular duties and all as a community perform their co-operative functions, tubercular infection could not cross the frontier; but when that system fails to enforce the elaboration of proper digestive agents, thus starving the tissues and permitting intra-intestinal fermentation with toxic products; when it does not afford provision for the army of microscopic defenders, the phagocytes; when it is unable to keep up the standard of its natural antitoxins; when complete cell nutrition and metabolism fail, in a word, then the bacillus of Koch and its collaborators, which are ever with us, begin to overcome the vitality of the tissues. The invasion gets a foothold. And if this system continues incompetent, or becomes more so, physiology steadily becomes pathology; very soon symptoms of developed tuberculosis attract the observer. These are usually not the first signs existing; a searching diagnostician might find tubercular glands much earlier, but they are in ordinary practice the first to be discovered, the first unquestionable external manifestations.

What are, then, the symptoms of the borderland of tuberculosis? To be more intelligible, I should picture you a variety of tubercular indications of different types, but I have not the time at my disposal. Briefly, they are comprised in the following, which may or may not all be present: In children we have in parparticular habitual headaches, nose-bleed, early and excessive brightness of intellect, tonsilitis, occasional irregular unaccountable fever, adenites in various localities, lassitude without undue exertion, seeming indifference to duties when at heart desirous of performing them, over-activity of hair growth. At all ages chronic stomachal and intestinal dyspepsias, occasional flushing of the face, unaccountable afternoon fevers, unaccountable sub-normal temperature (more common in the morning), pleurisy (almost always surely tubercular), occasional aching in one or more identical spots in the chest or back, under the shoulder blades, hypertrophied tonsils, adenoid and lymphoid growths of the throat, hacking coughs with or without expectoration, grayish, glairy sputum even when in small specks, spitting of blood even in minute quantities, habitual scraping of the throat, chronic respiratory catarrh, sweats without natural causes (night or day, general or localized), habitually fast pulse (85 to 120 in adults), clammy or sweating hands and feet, susceptibility to colds under slight provocation, certain abnormal chest conformations, etc., etc. Any of these symptoms suggest the necessity. of a thorough examination and long observations, if need be, to discover better known signs of existing lesions. They suggest the use of the tuberculin test and Courmont's sero-reaction (agglutination) method of early diagnosis.

I have mentioned tonsilitis as an early sign of tubercular infection. This brings up the question of germ entrance into the system and subsequent infections in various organs. It is an important question, having the greatest bearing on the problem of early diagnosis, for if we realize the actual manner and point of original invasion we may apply preventives there and trace the route of the microbic invaders, at least in a measure.

There was a time when tubercle bacilli were supposed to reach the lungs only by indirect inhalation; the abdominal organs by ingestion and other localities by undefined channels. Now we know that while this idea is not categorically contested, the tonsils are, perhaps, the chief gateways. Meyer, of Copenhagen, and Dieulafoy have demonstrated by experimentation and observation that tonsilar hypertrophies are perhaps generally of tubercular origins, as are probably the pathologic lymphoid tissues of the pharynx and naso-pharynx. The ordinary lesions of tubercular throat are not present, the disease is latent. Thence, if the germs succeed in their efforts, they cross their barriers and finally reach the glands of the lungs by the lymphatics. By means of the circulation currents, comparatively rare, they may reach the brain and other organs.

And if we admit this conception of the chief mode of bacillar ingress as correct, we appreciate at once how simple are therapeutic and hygienic measures capable of disinfection and prevention.

When one presents regrettable conditions to an audience he is generally tempted to offer a remedy. In submitting to this learned association that the civilized world is so sadly apathetic to the eternal tragedy of tuberculosis, and that the profession is not wholly free from responsibility for the situation, I find myself wishing for some reform but unable to map out any plan. However, perhaps you will indulge me a word of suggestion which some of those more directly interested, particularly medical teachers, may find worth considering at leisure.

It appears to me that a vigorous campaign of education on general hygiene, and the hygiene of tuberculosis in particular, is necessary and demanded; that it should include two distinct branches—one for the education of the public, the other for the further instruction of the profession. The first might be attempted by concerted efforts — a well-arranged system under the national medical association and all its subordinate bodies and the boards of health—to reach the people through the schools and public lectures. The second by means of additional teaching in the medical schools, elaborating the physiology at the points where it dwindles down into pathology—in other words, teach thoroughly the nature of the borderland of disease, chiefly of tuberculosis, including the advanced methods of early diagnosis.

(For discussion see p. 233.)

Conjugal Diabetes.

Martinet (*Presse Medicale*, December 7, 1904) reports five cases of diabetes occurring in both husband and wife among a total of twenty cases of the disease recognized in his private practice. He quotes Debove as having discovered six instances of this nature among a total of fifty. Both of these observers recognize a far larger proportion than is generally believed to be the case, and this variation is believed by the author to be due to the fact that sufficient and continued acquaintance with the family has not been made by those who have discovered the disease coincidentally with comparative little frequency. M. A. B.

PATHOLOGIC CHANGES RESULTING FROM PROSTATIC ENLARGEMENT.*

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There is still plenty of room in the field of research for the etiologic factors in prostatic enlargement.

Of the different solutions to-day, atheroma, perverted orchicism, and inflammation seem to be the favorite ones.

In atheroma it seems to me that our French brethren have rather strained a point and have given us a definition so complex in solution that it remains a fact, on account of a lack of digestion.

In perverted orchicism there are several factors to be considered:

1. Orchicism is masculinity. Do a double orchectomy and you remove the masculinity from your subject.

2. In organ therapy we supply deficiencies in the affected organs; so castration removes the excessive orchicism, which produces prostatic hyperplasia. There seems to be a dual action between the testicle and prostate that necessitates an equilibrium in order to prevent pathology.

3. From an analogical standpoint between the prostate and uterus the fusing of the posterior ends of the Müllerian ducts, which form the uterus in the female and the utriculus prostaticus of the male, seem to be the closest. It is here that a matrix of myoblasts might, from stimulation, produce a myoma.

Ricker found frequently, in myomata of the uterus, epithelial structures which he believed were derived from Müller's ducts, and, in his opinion, the tumor is adenomatous primarily.

Inflammation, I believe, before many years, will be proven to be the most frequent cause of prostatic enlargement. Yet Thompson absolutely denies it as a factor, and an opinion coming from him is to be respected.

Glandular tissue, in other portions of the body, gets not the attention from a displacement standpoint that the prostate does. An enlargement in any of them will find inflammation or irritation as the cause.

Osler describes a remarkable condition of chronic symmetrical enlargement of the salivary and lachrymal glands which may persist for years.

The so-called metastasis of mumps would be more interesting if the testicular, ovarian, or mammary glands surrounded the neck of a vesica, for the atrophy which usually follows those invasions might have been changed to hypertrophy on account of the stimulation of the ever-congested bladder.

Pathology of to-day designates "adenomata as occurring most frequently in organs the seat of periodical congestion, such as the mammary and prostate, the uterus and ovaries. The change taking place most frequently between the adolescent and mid-life period." (Senn.) If this be true, it merely proves that "much of the etiologic obscurity of prostatic hypertrophy is probably due to the clinical fact that the primary condition that precedes true hypertrophy is rather exceptionally brought to the attention of the surgeon." (Lydston.)

It is, in my opinion, probable that after the prostatic acini become once infected, especially with the diplococcus of Neisser, on account of a posterior urethritis directly, or indirectly from anterior urethritis,[1] or from the typhoid or colon bacilli from the bowel (transmigration), that on account of their inability to drain themselves there remain foci of infection that are ever ready to become congested, and this congestion stimulates epithelial cell multiplication.

The rôle played by the component parts of the future tumor might be called pathologic evolution metamorphosis from a fibro-myo-adenoma to an adeno-myo-fibroma.

In any event, we do know that after this hyperplasia or hypertrophy has produced a gland weighing more than six drachms, that changes begin to take place that become pathologic.

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[1] Infection could be carried by way of the lymph-vessels which follow the deep dorsalis penis veins, which form the prostatic plexus, the lymphatics emptying into a couple of lateral nodes near the base of the prostate.

* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11-13, 1904.

The pelvic fascia is responsible for all future pathology after enlargement begins, on account of its inability to accommodate itself to the displacements that occur, and an anatomic review will not be out of place in order to show its relation to the prostate.

The nomenclature of the pelvic fascia has such a multiplication of synonyms that its study confuses the student and makes its understanding unnecessarily hard. If anatomists would name all fascias above the deep lamina of the superficial fascia (Colles) according to the muscles they ensheath or the organs they touch, there would be more simplicity and less confusion. For instance, the levator ani, obturator internus, coccygeus and pyriformis muscles join with each other to form the floor of the pelvis; the fascia which covers all of them splits to receive each muscle, and consequently has a deep and superficial lamina. The triangular ligament is the deep and superficial lamina of the levator fascia, anterior to a line running through the transversus peronei muscles, and the apex of the triangular ligament; holding up the prostate on either side, is the pubo-prostatic portion of the levator fascia (pubo-prostatic fascia or anterior true ligaments of the bladder). The reflection from the deep lamina of the levator fascia, which forms the so called capsule and joins the bladder and rectum together, could be called the vesico-recto-prostatic fascia, the name being divided to correspond with the region it occupied.

The only fascia in this region attached to the prostate is the deep lamina of the levator fascia and reflections from it. The apex of the prostate inserts itself into this fascia almost at a right angle, the reflected portion encapsulating it toward the bladder base. As the prostate increases in size, which always occurs towards its base, the bladder neck and trigone is held upward on account of this prostatic portion of the recto-vesico-prostatic fascia, it being anchored to the iliac fascia by way of the levator fascia. Thus the trigonum vesicæ is changed from a horizontal plane to a perpendicular position, and the natural drainage of that portion of the bladder is gone. The prostatic urethra is enlarged, presenting a greater surface for irritation, and we all know that the neck of any mucous sack is the most sensitive part of it. For instance, hepatic colic does not occur until the stone is engaged in the duct of the cholecyst; carcinnoma of the pylorus is the most frequent in the stomach.

Pain from the prostatic region is interesting from the fact that it not only tells of its own region, but reflects it to the twelfth rib (tenth dorsal) over the posterior iliac spine (eleventh dorsal), and even to the soles of the feet (third sacral) (Treves.)

The enlarged prostate distorts the bladder to such a degree that the bas-fond is found to be below the line of natural drainage; urine is left in the bladder after micturition, and pathology begins in earnest. Cystitis is added as a complication. The reason that residual urine begins early in the disease is due to the fact that the trigonum is sparingly supplied with muscular fibres, being composed principally of vesico-rectal and recto-prostatic fascia, and is consequently bound down to the rectum, and on account of this hypertrophic change the contractile force is wanting. It is true, also, that this portion of the bladder receives the major portion of nerve, arterial, venous and lymphatic circulation, and consequently is the most dangerous to traumatism.

This sacculated condition (eccentric enlargement) removes the valve action[1] from the ureters in the bladder wall and allows them to become infected with pyogenic material. There is also a tendency of ureteral dilatation on account of a double pressure from the kidneys downward and from the bladder downward.

The base becomes infiltrated with that toxic matter which is so destructive to the economy when turned loose into the circulation.[2] Whether this toxicity, resulting from residual urine decomposition, is due to chemic or bacteriologic pathology, either or both, is a subject still free from solution. We do know that the poison is there and that it is dangerous.

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[1] Two bands of oblique fibres, originating behind the orifices of the ureters, converge to the back part of the prostate glands, and are inserted, by means of the fibrous process, into the middle of that organ. They are the muscles of the ureters, described by Sir C. Bell, who supposed that, during the contraction of the bladder, they serve to retain the oblique direction of the ureters, and so prevent the reflux of urine into them (Gray). The most plausible solution for the valve action of the ureters, is the intra-vesical urine pressure on the submucous ureter.

[2] There is a great similarity between the pathology of puerperal eclampsia and prostatic enlargement. The blocking of the genito-urinary tract in both from pressure would account for the toxemia.

After the invasion of the ureters we may have a general ureteritis which becomes pyo-ureter, then pyelitis, pyonephrosis, pyelo-nephritis, and finally renal abscess or suppurative nephritis. This is the stage in which the patient becomes inoperable for anything more than mere bladder drainage. Were it not for the enlarged prostate a cystoscopy with ureteral and kidney flushings, together with bladder washings, would control the inflammatory action.

With some part or all of this pathology present in a case of prostatic hyperthropy, it behooves us to look well toward the magnitude of the attention that this subject deserves.

I have two cases to report which exemplify the dangers of operative precedure after these pathologic changes have taken place :

CASE I

Mr. S. (patient referred to me by Dr. Hall, of Convoy, O.), aged sixty-eight, farmer. Bladder trouble began eight years ago with hemorrhages; catheter life, one month; weight decreased from 212 to 165 pounds. Stomach began troubling two months prior to consultation; modified aphonia present for twelve weeks. Urinates eighteen to twenty times at night and twelve to fourteen times during the day; residual urine, eighteen ounces. Rectal examination revealed bilateral enlargement of prostate two and a half inches in length. Cystoscopy into prostatic region of bladder revealed an enlarged middle lobe.

Urinalysis: Reaction acid; specific gravity 1017; no sugar; considerable albumin. Microscopic examination revealed a few tube-casts along with the bladder epithelium, pus cells, and urinary detritus, which is ever present in cystitis.

After being under treatment at St. Joe Hospital nineteen days (during this time sterilization of the genito-urinary tract was done by medication per oram and bladder irrigations), with full knowledge that my best judgment advised him against operative procedures, he was operated upon April 29, 1903.

Operation: Transverse tuber-ischi incision; prostate removed; the right and middle lobe intact, the left lobe by morcellement; bladder drainage instituted; patient put to bed in good condition. On the third day after the operation his condition seemed so favorable that the Sisters refused to continue a special nurse until after I had insisted upon it. In spite of hypodermoclysis of normal salt solution, erect posture and all things else indicated, uremia began on the fourth day and the patient died on the seventh day of May.

Post-mortem: Prostatic bladder found in perfect post-operative condition; bladder wall thick and contracted; right ureter dilated at its insertion into the muscularis, in base of bladder, to the size of a hen's egg. Right kidney showed parenchymatous nephritis; left kidney a mere shell; pelvis dilated to the size of a urinary bladder and muchly resembling a bladder; left ureter dilated to the size of my finger and emptied into a sacculated portion of left bladder just to the side of prostate.

CASE II.

Mr. B. (service of Dr. Mentzer, Monroeville, Ind.), farmer, aged twenty-five. Married two years. Typhoid fever two years ago. Retention occurred during a relapse of the fever and has been present intermittingly ever since. April 7, 1904, he was placed in Hope Hospital, and at that time the bladder was sounded for stone; no stone being found, a rectal examination was made and an enlarged prostate was discovered.

Urinalysis at this time revealed a trace of albumin, and on account of this albuminuria the patient was placed in the hospital ward for treatment. A urinalysis made April 14 reported the urine free from albumin, so on the following day we decided to operate.

Operation: Median incision; prostate removed; the prostate found to encircle the bladder neck somewhat like a ring. The median lobe predominating in its hypertropy. Very little hemorrhage, two rubber drainage-tubes being introduced into the bladder and continuous irrigation instituted; the patient was put to bed in good condition. In spite of every care the patient died from uremic poisoning on the night of the 18th.

Post mortem: Intense nephritis of right kidney; abscess of left kidney with pyo-ureter; ureter four times too large. Appendix adherent to lower quadrant of right kidney; peritoneal adhesions found in region of caput coli and ileum. These were likely remnants of the typhoid fever. No peritonitis present at this time. Post-operative condition of the bladder found perfect.

In this man we had a subject that seemed favorable from the standpoint of age, general physique and environment, and the only reason that he did not get well was the fact that two years prior to the operation a diseased condition became present in the bladder, which in this time destroyed the kidneys.

CONCLUSIONS.

The general practitioner should be prepared at least to make a rectal examination of the prostate whenever symptoms point to that region. If hypertrophic changes are found, and after careful treatment the tumor does not diminish in size, surgical intervention should be advised and insisted upon.

If infection has not preceded catheter life it is sure to follow. The patient's life under this condition is appalling and most pitiable. I know of no one that is a better prey for quacks or who is more unsatisfactory for the physician to treat.

Early prostatic operations are not dangerous; late ones are always dangerous and frequently fatal. The general practitioner has the fate of the prostatic in his hands, either to guide him over his trouble or to advise him to continue a life of miserable suffering which intensifies itself toward the end.

We are examining the old rather than the young men for prostatic enlargement, and in so doing are getting the big rather than the little end of the dilemma.

DISCUSSION ON THE PAPERS OF DRS. BASTMAN AND BARNETT.

Dr. G. Frank Lydston, of Chicago, thought the profession at large had accepted perineal prostatectomy as the operation of election, although there were certain cases that could not be dealt with satisfactorily by this route. However, obviously it was the most direct route where it was practicable to adopt it. If one did not by palliative treatment discriminate, he was liable to operate simply because the patient had an enlarged prostate, and the line of demarkation in middle life from a simple hyperplasia or chronic inflammation and simple hypertrophy of the prostate was not as clearly marked as could be desired. In many instances it was imperative to treat patients palliatively until one was positive that the tumor was not only increasing, but was causing urinary obstruction. He pointed out the dangerous phases of prostatectomy. When this operation was done in a careful way there was no injury to the ejaculatory duct. He could recall numerous cases in which the sexual function had not been impaired

Dr. E. M. Gilliam, of Columbus, O., detailed two cases of hypertrophy of the prostate upon which he had operated. and in the after-treatment he recommended placing the patient in the Fowler position.

Dr. H. J. Scherck, of St. Louis, Mo., mentioned cases in which it was difficult to diagnose the extent and kind of enlaegement, and, moreover, the effect of that enlargement on retention of urine. He said there was a class of cases in old men whose bladders contained a more or less amount of residual urine irrespective of the condition and size of the prostate. The condition seemed to him to be more of an atonic state of the bladder walls than the effect of the enlarged prostate.

Dr. Bransford Lewis, of St. Louis, Mo., pointed out that there was no particular operation which fulfilled all the indications in cases of hypertrophy of the prostate. The Bottini operation had been condemned by many, but there were indications for it. He detailed the case of a man, seventy-one years of age, whom he believed would not have withstood a prostatectomy at any time. The patient had a specific gravity of 1005, with a stone in the bladder as large as one's fist, with ragged edge. In this case he resorted to suprapubic lithotomy, removed the stone, drained, and then did a Bottini operation. Patient made a goop recovery. He was relieved of the fistula that had existed.

The great problem in these cases was diagnosis.

Dr. F. F. Lawrence, of Columbus, O. said it should be pointed out distinctly that hypertrophy of the prostate was a surgical disease, first, last, and all times. If surgeons united in a positive manner on this subject, and convinced the general profession that this was true, the mortality now attending prostatectomy would immediately decline, as it had done following operations for appendicitis, ovariotomy, and other surgical affections.

Dr. H. O. Walker, of Detroit, Mich., had operated by the suprapubic route over twenty times, and had only lost one patient. At the same time. he preferred, whenever practicable, to do perineal prostatectomy. He removed one prostate suprapubically that weighed seven and one half ounces.

It is authoritatively stated that in threatening eclampsia during pregnancy no other remedy is so useful as thyroid extract, pushed until it produces its full effects upon the circulation.

It is claimed that turpentine applied freely to wounds will prevent tetanus.—*Med. Summary.*

A CASE OF BILATERAL TIC DOULOUREUX TREATED BY REMOVAL OF THE RIGHT GASSERION GANGLION AND EXCISION OF THE LEFT INFERIOR DENTAL NERVE.*

BY W. O. BULLOCK, M.D.,
LEXINGTON, KY.

Bilateral tic douloureux occurs most frequently as the consequence of systemic disease. Occurring as the result of constitutional disease, it may be caused by the direct action of specific blood change upon some part of the fifth nerve (root, ganglion, or branches), and this is probably the case when the affection complicates diabetes, or infectious diseases. Occurring as the result of constitutional diseases, bilateral tic may be due to secondary changes in the neighborhood of the nerve exits, and periosteal thickening of the cranial base, the result of syphilitic periostitis, has been known to produce the condition.

As the result of constitutional disease, gummata or tubercles involving the pons at the decussation of the sensory fibres of the nerve, or distributed along the course of both nerves, might theoretically produce the disease. Other tumors, benign or malignant, of the brain occupying similar positions might likewise, from a theoretical standpoint, produce the same effect.

When, therefore, a case of bilateral tic is met which cannot be referred to some irreparable change, general or local, then we must assume that such a case belongs to the same class as the ordinary unilateral form, the exact pathology of which is but little known, and that, so far as possible, it should receive similar treatment.

A careful examination of the case here reported failed to elicit any history of syphilis, diabetes, rheumatism, tuberculosis or nephritis.

Nothing within the cavities of the mouth, nose or ears was found that might have produced the condition reflexly. Nor was it to be expected that a local irritation would produce reflexly bilateral pain.

The eye grounds showed none of the characteristics of increasing intracranial pressure, so I was led to the belief that the case was one of simple bilateral tic, which was due to ganglionic or other change induced by sudden chilling while overheated. On retrospect, however, several facts were brought to mind which failed to express significance at the time of examination. One was the features of the patient. These were very large, nose flattened, nostrils widely dilated, cheek bones prominent, so much so as to suggest periosteal or bony changes that may have been specific, though, as stated, I found no other evidence of syphilis. And, again, this apparent enlargement of the facial bones, taken in connection with the enormous size of the patient, might suggest a kind of gigantism. These were the only constitutional diseases to which I could possibly attribute the condition, and these seem very remote.

Sallie Riley, colored, aged forty years. Seen first February 23, 1904. At the time of my visit she was suffering so terribly that speech was impossible, and every attempt at speaking would bring about severe spasms of pain, which involved the entire distribution of the fifth nerve on the right side of the face, and the area of sensory distribution of the inferior maxillary division of the left side. After existing for a short time the pains lessened in intensity and the patient was able to tell that she was a cook, and that about a year and a half before she, while working at a summer resort, would become much overheated, and that while hot she would throw very cold water over her face and chest. Towards the end of the season the right side of her face became the seat of severe spasmodic pain, which would come and go at irregular intervals. She stated that a hypodermic of morphine injected into her face by a physician gave her relief for two or three months; when the pain returned it affected the lower jaw of the opposite side, and very soon thereafter it reappeared upon the right side also. The attacks, which were at first at intervals of a week or month, gradually increased in frequency and severity, often completely incapacitating her for work. She had been treated variously by different physicians with but little relief, and when she came under my observation half-grain doses of morphine gave but partial relief.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11-13, 1904.

The patient, who at the time she was first seen weighed three hundred pounds, claims that she had recently lost thirty pounds. She was pregnant about three months, has a child eighteen months, no miscarriages. As stated in preceding remarks, there was no evidence of syphilis, scars, ulcers, gummata or enlarged glands, and specific history was denied. Vision normal and eye grounds normal; mucoüs cavities of head and face normal. Urine examination: Specific gravity 1.018, no sugar, no albumin and no casts. Urine examined before each operation and after the last, each time normal.

On February 29, under ether, I excised an inch of the inferior dental nerve, believing that if relief from pain on that side should take place the question of intracranial tumor would be eliminated. This was carried out by a transverse incision one and a half inches below the zygoma, separating the fibres of the masseter and enlarging sigmoid notch by means of a half-inch trephine. The nerve was easily found and an inch of it resected. Some salivary discharge followed, due to trauma to parotid gland. This lasted for about a week. Relief from pain on left side was immediate and complete. Pain upon the opposite side lessened considerably, and the contemplated removal of the Gasserian ganglion of that side was for a time postponed. After some three weeks pain upon the right side returned with added severity, and four weeks after the first operation, in the face of an unpromising prognosis, the patient requested the removal of the ganglion. So on March 28, 1904, at St. Joseph's Hospital, I opened the skull and removed the ganglion, following the technique of the Hartley-Krause method. Trephine, rougeur and chisel were used in making the bone flap. This was so much separated from overlying parts that its removal was thought advisable. Hemorrhage from dura considerable. Projecting edge of temporal bone removed by rougeur well down to base of skull. Groove for middle meningeal artery located and followed to its commencement. Dura separated from skull base in front of and internal to this. In the brief intervals between tamponings, at the bottom of the wedge-shaped cavity, the second and third divisions of the nerve were seen as two short ridges meeting at an obtuse angle and covered with dura. Incising and pushing back the upper sheath, it was comparatively easy to separate the ganglion and its second and third branches from their attachments. The ganglion came away with the third division. The superior maxillary division, owing to imperfect severance at the foramen rotundum was removed separately. No visible trace of ganglion was left behind, and Meckel's pit was clean and glistening. Time of operation from initial incision to removal of ganglion, one hour and forty-five minutes. Union per primam. Patient sat up on third day. Left hospital on the twelfth day. Relief from pain. Complete anesthesia in the right half of face. Corneal irritation considerable, lasting nearly two weeks.

Microscopic examination by Dr. T. S. Lewis, pathologist of Eastern Kentucky Hospital for Insane, demonstrated ganglion cells in specimen removed.

No special instruments were employed. Rather flexible three-quarter inch retractors were used to hold the brain away from operative field.

Subsequent history as follows: The patient remained free of pain in the face, but complained of sense of drawing in the region of the scar. She returned to work a month after last operation and worked for six weeks, when, on account of weakness, she was compelled to quit. Some three months after operation I found her quite short of breath and her feet swollen and edematous. She was being treated by the City Physician. I did not see her again until ten days before her death. She was then in about the same condition with less edema. On August 16, on account of domestic trouble, she left home and walked nearly a mile, and on her return labor pains began. From Drs. Helm and Neely I learned that she rapidly passed into coma and died the following day of uremia, a little less than six months after the first operation and five months after the last.

Sensation was returning on the left side. Had the pain returned on the left side I should have advised section of the sensory root of the ganglion, as this would have entailed no paralysis of the muscles of mastication.

Autopsy was not obtained.

CLIMATIC ADVANTAGES.

BY CHARLES F. BEESON, PH. G., M.D.,
ROSWELL, NEW MEX.,
Formerly House Physician Cincinnati Hospital; late Surgeon for Colorado Fuel and Iron Co.

There has been much said and written, in recent years, of the advantages and disadvantages of climate and altitude upon the pathological conditions of the human system, and more especially that of pulmonary tuberculosis.

If a person should spend twelve years west of the Mississipi River, during which time he visited every State and Territory in its vast extent, and then should he spend five years in a study of the conditions existing in any one of them, I believe he should be able to speak with some intelligence upon the subject of which I am about to elucidate.

While climate and altitude do not seem to hold the place they once held in the estimation of the medical profession for the treatment of pulmonary affections, yet there are certain points in favor of certain localities over others, which, we must admit, fits them for the habitation of people who, unfortunately, are a little below the average in physical endurance; those whom cold, blustery weather drives indoors, and who must of necessity remain there during several months of the winters at and above the fortieth parallel of north latitude.

These same people are perhaps handicapped in their early years by catarrhal conditions of the upper air-passages, and each winter distresses them with frequent attacks of coryza, bronchitis, influenza, and perhaps pneumonia; invariably a vicious circle is established, and they go on from bad to worse; each winter sees the catarrhal conditions aggravated and the catarrhal conditions in turn making each succeeding winter the more disagreeable and dangerous.

Our Northern cities and towns are full of them; they dread to see the winter coming on, and finally one by one the spring finds them losing weight, languid and easily fatigued; perhaps with a dry, rasping cough and at times a blood-tinged expectoration. These are the persons to whom the medical profession should direct themselves if they have at heart the determination to rid our fair land of that dreadful scourge, pulmonary tuberculosis. Should they at a much later date seek a more congenial climate, it will in all probability be the crowning disappointment of their lives.

These are the people who can and should find a suitable soil upon which they can thrive, and environments in keeping with their lessened physical resistance.

These people were probably not intended to inhabit that region of sudden and extreme climatic changes any more than the Arab was intended for Greenland.

Why should they insist upon living where the very elements of Nature stamp their displeasure by repeatedly congesting the vital organs?

Why should they remain at the fortieth degree of north latitude when in all probability the thirty-fifth, or even the thirtieth, was intended for them?

Why should they tarry until these same catarrhal conditions have opened the portals and prepared the soil for the ever-present germs of disease?

Why should they wait until the greedy fangs of the great white octopus have been implanted in the walls of the delicate air cells made susceptible by insufficient expansion, deficient aëration and repeated congestion?

Why should they bring up their children, who are often of the same constitutional habit, to pass through the same distress year after year until they finally succumb to the prevailing monster?

It is this stage of their existence which I wish to appeal to the medical profession that they may advise those of the phthisical habit and the Hippocratic build.

Let one of our profession discover that he has some of the conditions mentioned and see how quickly he looks about for a suitable climate.

I find that there are certain essentials which combine to make up a suitable home for the majority of the persons for whom I am pleading. These I will con-dense into pure air, moderate altitude, even temperature, congenial natives and natural resources.

I will endeavor in the following plain words to show you, and any others who care to read, that there is a new region within our own free borders which the good Lord has begun and with the help of the pioneer and the United States Government is rapidly completing, an abode, if judiciously handled, for just such of our own human family as I have depicted in the foregoing paragraphs; a beautiful and pleasant living place for these very useful members of society—aye, perhaps of our own dear kin; a land where they may not only live, but thrive and enjoy to the fullest the blessings with which our Maker has endowed us.

In order to demonstrate what we have already unconsciously discovered, let me kindly ask you to indulge with me for a moment, and we will encircle the earth with an imaginary band, including that portion of it lying between the thirtieth and the thirty-sixth parallels of north latitude. This hypothetical path will take us through bright and sunny climes, lands that are historically established as our original birthplace, beautiful countries of which you have been made familiar in both song and story. But let us be a little more explicit, let us draw our lines a little bit closer and establish that ever-desirable happy medium at a line in the centre of this band, the thirty-third degree of north latitude, and see what we have in its proximity to prove what I wish to demonstrate. We will find Asheville, N. C., Atlanta, Ga., Hot Springs, Ark., Roswell in the Pecos Valley, Ft. Stanton, U. S. Marine Hospital Sanitarium, and Ft. Bayard, U. S. Army Sanitarium in New Mexico, Phoenix, Ariz., and Los Angeles, Cal. The Santa Catalina Islands in the Pacific, Tokio in Japan, Babylon in the Garden of Eden, Jerusalem in Palestine, Alexandria in Egypt, Gibraltar and the Bermuda Islands.

Thus we see that the world has unconsciously fixed the thirty-third degree of north latitude as its most equable and life-giving line. To those who should but do not live in this zone, it would be impossible for me to depict the advantages along the entire length of this visionary line, but I shall confine myself to a very small portion of its linear dimensions, a portion which is new to a majority of our countrymen; in fact, its beauties, its resources and its advantages have just been discovered and are now unfolding to us as the petals of a rose opening to the sun on a summer's day.

I believe you will seldom find a more perfect and happy combination of altitude, air, water, soil and society than that of the Pecos Valley in New Mexico, of which the city of Roswell is the centre and the metropolis. And, of course, it is superfluous to say that the thirty-third degree passes through the centre of it.

This portion of the valley is a perfectly level, irrigable strip of rich land, extending from old Ft. Sumner, sixty miles north of Roswell, to the southern boundary of New Mexico, an area about two hundred miles in length by twenty in width, and of about the shape and dimensions of the State of Connecticut.

The atmosphere is dry, light and bracing, and as pure as the ocean breezes, as attested to by the deep blue sky and the twinkling stars; sixty miles to the west a range of towering mountains can be seen as distinctly as a line of battleships at sea.

The hot, withering winds complained of in some portions of the Southwest are tempered by this snow-capped range, so that they fall into this valley as refreshing as the zephyrs on a May morning.

There is just sufficient snap in the air to quicken the step of the most languid, expanding the lungs and accelerating the pulse, propelling fresh oxygenated blood to the remotest capillaries.

Every tissue in the body feels the impetus to renewed energy. The quiescent lobules beneath the clavicles become expanded and the congested areas relieved. The red blood corpuscles are increased in number, the appetitite improves and the whole organism awakens to be born unto a new life.

The altitude being 3.500 feet, it is just a pleasant and happy medium, and insures an early establishment of that systemic equilibrium which is so essential for the proper regulation of the bodily secretions, as well as the workings of the nervous system, and unconsciously one enters into the spirit of the free sweep of the Western ways.

The evaporation from the lakes, reservoirs, rivers and artesian wells furnishes just a sufficient degree of moisture to the air to prevent that dry, parched feeling so common in less favored regions of the Southwest; the skin takes kindly to this pleasant humidity, and remains slightly moist and well filled out.

Out-door life can be complete, twenty-four hours per day, and 365 days per year can and are spent in the open air unconscious of a sense of duty. Hot nights are unknown and tent life is ideal.

Atmospheric changes are seldom and slow; telegraphic communication with the North brings us news of the fierce blizzards, and usually before the end of twenty-four hours the temperature slowly falls ten or fifteen degrees, and, without any other particular disturbance, remains so for a few days and then as slowly rises again.

Severe weather is as foreign to this region as icebergs are to Mexico. The sun shines almost incessantly; perspiration evaporates rapidly, cooling the body to a pleasant degree, which must be felt to be appreciated. Sunstroke and heat prostration are never heard of, owing to the rarefied air, rapid evaporation and the absence of excessive humidity.

The shades and shadows are a very pleasant rendezvous, and are only sought to any great extent in the month of June.

The daily showers in July and August make life one grand, sweet song.

Below you will find United States Government statistics for 1900, 1901, 1902 and 1903. Gallinas is situated in the north end of the valley, at an elevation 5,272 feet; Roswell in the centre, at an elevation of 3.570 feet; Carlsbad in the south end, at an elevation of 3,122 feet.

	* Temp.	Sunny Days.	Precip. Inches.	Relative Humidity.	
				a.m.	p.m.
1900.					
Gallinas..	102, 5, 55	293	21.6	55	34
Roswell..	103, 7, 59	289	19 8	55	34
Carlsbad.	104, 7, 61		20 5	55	34
1901.					
Gallinas.	100, 5, 55	295	18 89	61	44
Roswell..	101, 3, 59	277	17.84	61	44
Carlsbad	102	300		61	44
1902.					
Gallinas..	105, 6, 56	292	8 06	54	38
Roswell..	107, 10, 59½	306	16 58	56	38
Carlsbad.	112, 13, 65	344	22.4	56+	
1903†.					
Gallinas..	101, 10	300‡	6‡		
Roswell..	97, 7	310‡	7‡		
Carlsbad.	105, 2, 63	344	8.5		

*Temp —Highest, Lowest and Average.
†Estimated, Government statistics wanting.
‡Dryest year in 20 [illegible]

Water is bountiful and pure, gushing from hundreds of artesian wells, each flowing from 500 to 2,000 gallons per minute, and scattered over an area of 600 square miles.

A few miles to the north and south of Roswell two small rivers of pure sparkling water pour forth from the bowels of the earth, flowing onward for thirty miles, scattering life and happiness over some of the finest alfalfa fields in the world.

The United States Government is now building the Hondo Reservoir, twelve miles west of Roswell; also a dam at McMillen and Lake Avalon at Carlsbad, eighty miles south of Roswell. The Government is also preparing to build a much larger reservoir at Urton Lake, sixty miles north of Roswell. The natural lay of the land is such that it is impossible for any of these reservoirs to give way or ever harm a soul. With these sources of water supply there will be furnished thirty inches of water per annum over an area of about 6,000 square miles, or a country a little less than the size of Massachusetts, and as fine land as one could wish, and of which twenty acres will make an independent living.

Food-stuffs are plentiful, fruits and vegetables grow luxuriantly. The markets are flooded with meat, eggs and milk.

Irrigable land pays 12 per cent. interest on a basis of 50 to 500 dollars per acre. Cattle, hogs and alfalfa, honey apples and cantaloupes are the prize products of this beautiful valley.

Roswell is a city of 6,000 white, bright, progressive people; strong, intelligent and healthy. Sanitary laws are rigidly enforced; sewerage system is very good, and with an annual rainy season the city is kept as clean as a new pin. The inhabitants of Roswell and of the valley in general, are happily supplied by nearly every State in the Union. Mexicans are comparatively scarce, likewise other foreign elements. A bright and intelligent physician administers to the ills of each 300 persons.

Hospitals are few, substantiating the healthfulness of the valley. The diseases peculiar to this zone are seldom found in this region. Malaria, hookworm disease and breakbone fever are usually imaginary in the minds of the hypochondriac.

This valley is now in an embryonic state, and is offering inducements unprecedented for those of our cold, blustery regions in the North, who can and should live in an equable, sunny, stormless clime. By coming to this valley they will find it neither too low nor too high, too hot nor too cold, too wet nor too dry, too new nor too old. Just a happy medium which cannot be equaled by any land pierced by the thirty-third degree of north latitude.

Society Proceedings.

OHIO VALLEY MEDICAL ASSOCIATION.

OFFICIAL REPORT.

Sixth Annual Meeting, Evansville, Ind., November 9–10, 1904.

THURSDAY MORNING SESSION.

President Hayden: The meeting will now please come to order. The first thing on the programme will be the report of the Committee on Arrangements, by Dr. Floyd.

Dr. Floyd: I do not think there is anything to report, Dr. Hayden.

President Hayden: Before going any further I wish to appoint some committees. I wish first to appoint a Committee on Credentials. I will appoint Drs. Hartloff, Stevens, and Welbourn. I should like to have this committee look over the credentials of the applicants for membership.

I also wish to appoint a Committee on Publication and Finance. I shall appoint Dr. Schachner, of Louisville; Dr. Brown, of Cincinnati; Dr. Dixon, of Henderson; Dr. Hendershot, of———; Dr. Floyd, of Evansville. I should like to have this committee make a report this morning or right after dinner. If possible, I should like to have the report of the Credential Committee this morning. If it is not convenient for the Committee on Publication and Finance to make a repert this morning, we will have it after dinner.

Now come the reports of committees. Are there any committes ready to report? If there are no committees ready to report is there any new business? Any miscellaneous business? Dr. Stone, will you kindly take the chair?

Chairman Stone: The next thing in order is the election of the officers. The first to be elected will be the President.

Dr. Hayden: I would like to place in nomination for this office our worthy First-Vice President, Dr. Stone, of Henderson, Kentucky.

Dr. Leber: I second the motion.

Dr Floyd: I move that the nominations be closed, and that we instruct the Secretary to cast the ballot for Dr. Stone as President of the Ohio Valley Medical Association.

Dr. Davis: I second the motion.

(The motion was voted upon and carried.)

Dr. Leiber: I cast the ballot of this Association for Dr. Stone as President.

Dr. Stone: Gentlemen, I wish to thank you for the honor you have bestowed upon me. I want to assure you that I do appreciate it as a high honor. I believe that those of us who first organized this Association have started the work that is destined to be of great service to the physicians of the Ohio Valley Medical Association. I know that if I make a success in the office to which you have just elected me that I must have the hearty co-operation of all of the officers and members of this Association. This I believe and sincerely hope I shall have. I will, of course, exert every effort to make our next meeting a success. I do not know where we will meet. I know that if we make this meeting as much of a success as the gentleman who has had the office before, and the gentlemen here in Evansville have made it, that any and all of us will feel that our duty has been well done. I thank you, gentlemen. (Applause.)

President Hayden: The next will be the election of the First Vice President.

Dr. Lieber: I wish to nominate C. F. Hendershot as First Vice-President.

Dr. Schachner: I should like to

nominate Dr. Ponser, of Indianapolis, Indiana.

Dr. Davis: I second the motion.

Dr. Floyd: I move you that the nominations be closed and the vote be taken.

President Hayden: I shall appoint the following gentlemen as tellers: Dr. Amerson, Dr. Dullivan and Dr. Welbourn.

(The vote was taken and Dr. Hendershot received ten votes, and Dr. Ponser fifteen votes.)

President Hayden: As Dr. Ponser received the highest number of votes we will declare him duly elected. Nominations are now open for Second Vice-President.

Dr. Reynolds: I wish to nominate Dr. Adolph Pfing for Second Vice-President.

Dr. Davis: I second the motion.

Dr. Floyd: I move that the nominations be closed and that the Secretary cast the ballot for Dr. Pfing.

(It was so ordered and the Secretary cast the ballot of the Association for Dr. Pfing.)

President Hayden: Nominations for Third Vice-President are in order.

Dr. Lieber: I nominate Dr. Beebe, of Cincinnati.

Dr. Reynolds: I second the nomination.

Dr. Floyd: I move you that the nominations be closed, and that the Secretary cast the ballot for Dr. Beebe as Third Vice-President.

(It was so ordered, and the Secretary cast the ballot of the Association for Dr. Beebe.)

President Hayden: Now comes the Secretary-Treasurer.

Dr. Davis: We have a good worker here in Evansville, and I am sure he would make a good Secretary-Treasurer. I wish to nominate Dr. Floyd, of Evansville, as Secretary-Treasurer, and I would suggest that the salary remain as it now is.

Dr. Stone: Mr. President: I wish to place in nomination our present Secretary, who is used to the work and lives near me, and I am sure I will need his constant sympathy and assistance. I know that Dr. Floyd would be a good worker, and that he would do his work well, but I would rather have the other man. I I think it would be better to have the Secretary near me.

Dr. Davis: I do not know where this society will meet the next time, but I presume it will meet here, and I think it is well to have some one on the ground who can be in touch with the President, even though he does not reside in the same town. For my part I think it would be much more satisfactory in this way.

President Hayden: If there is nothing further the Secretary will take up the vote. The nominees are Dr. Lieber, of Henderson, Kentucky, and Dr. Floyd, of Evansville.

(The vote was taken and the tellers reported nine votes for Dr. Lieber, and fifteen for Dr. Floyd.)

President Hayden: As Dr. Floyd received the highest number of votes he will be declared duly elected.

I have here a communication from Dr. Laughlin, of the Southern Indiana Hospital for the Insane. It is as follows:

> "Evansville, Ind.
>
> Dr. Hayden, President Ohio Valley Medical Association, Evansville, Ind.
>
> *Dear Doctor:* I wish to extend a cordial invitation to any of the members or guests of the Ohio Valley Medical Association, who may desire to visit the Southern Indiana Hospital for the Insane. Yours fraternally,
>
> C. E. Laughlin,
> Medical Superintendent."

I received from Dr. Bowers, of Richmond, to-day, his paper, on "Normal Saline Solutions in Surgery." As he has taken the trouble to send his paper I should like to have it read. What shall we do about it?

Dr. Reynolds: I move you, Mr. President, that the paper be read by title and referred to the publishing committee.

Dr. Griffith: I move you, Mr. President, that it be left over until those who are here have read their papers.

Dr. Reynolds: I do not believe you understood my motion, Dr. Griffith. My motion was that the paper be read by title and referred to the publishers.

Dr. Griffith: I did misunderstand it, and I now wish to withdraw my motion and second Dr. Reynolds'.

(The motion was voted on and carried.)

President Hayden: We would like to have the report of the Committee on Credentials before we proceed with the regular business this morning.

Dr. Lieber: We have the names of Thomas B. Eastman, Leopold Heimann, Earnest H. C. Hensler, C. F. Hunter, Bertram W. Sippy, E. S. Imel, George H. White, Jr., Charles A. L. Reed, D. A. Campbell and C. P. Kinney.

Dr. Reynolds: I move you that the report of the committee be received and the Secretary be instructed to cast the vote of the Association for the names read.

Dr. Davis: I second the motion.

(The motion was voted upon and carried.)

Dr. Reynolds: I would like to offer a resolution. It is as follows:

Resolved, That the President appoint a committee of three to correspond with other medical societies for the purpose of memorializing the State Legislatures, requesting such laws as may secure to inebriates such protecting care as may aid them to recover from the drink habit and enable them to become useful citizens.

Dr. Stone: I move that the resolution be adopted.

Dr. Davis: I second the motion, Mr. President.

(The motion was voted upon and carried.)

Dr. Welbourn: We have with us Dr. Roberts, of New York City, and Dr. Paul Paquin, of Asheville, North Carolina. I move you, Mr. President, that we make these gentlemen honorary members of this Association.

Dr. Floyd: I think we should include Dr. Kellogg in that motion, Mr. President. Dr. Kellogg is from Battle Creek, Mich.

Dr. Davis: I second the motion.

(The motion was voted upon and carried.)

President Hayden: The next business on the programme is a paper on "Consumption and Its Borderland. Why Should So many Consumptives Die? Public and Professional Concern," by Dr. Paul Paquin, of Asheville, N. C.

Dr. Paquin: I wish to thank you very kindly for the honor just conferred on me by electing me an honorary member of your society, and I assure you we appreciate it exceedingly. (See p. 217.)

President Hayden: Is Dr. Marvin, of Louisville, in the room? He is on the programme to lead in the discussion. On account of his not being present the subject is open for discussion. Does any one wish to discuss this paper?

DISCUSSION.

Dr. Reynolds: I do not feel like sitting still and allowing a paper like this to pass without saying a word. The tonsil is the gateway, I am free to admit. Abrasions of the skin at any point where the bacillus tuberculosis may find a resting-place may become the focus of infection, but a hypertrophied tonsil is a different situation. This was pointed out by a doctor of the University of Pennsylvania, who studied the structure of the lymphatic system, and his work is commented upon for thoroughness in detail. Tuberculosis, as we understand it, is the great enemy of mankind. It is one of the great prevalent diseases that carries away a majority of our fellow-men. It is preventable to a very great extent, I am satisfied, but when we take a pre-tuberculous state and pre contact, I feel that it is just as he has stated, the stage where the patient is passing from the point of infection of the general system to a local manifestation of the disease. It is the period from the time the seed has been sown to the sprouting and growth thereof.

Each one of us are alike predisposed in our journey to consumption. You inherit just as much as I do and I inherit just as much as you do. Some may have a perfectly sound respiratory membrane, better condition of the tonsils, better condition of the lining of the mouth and intestinal tract, and absolute security within themselves from tuberculous infection from any source. When they do develop this disease it has been known to be speedily followed by fatal results in a very large percentage of cases. It is at times curable—not, to my mind, entirely. It may be almost so in some striking instances. There is a most striking case concerning Dr. Waxham, of Chicago. This gentleman had tuberculosis and went to Denver, Colorado, and remained there eighteen months, and during that time he gained fifty pounds and looked as robust and healthy as he ever did before. One year's residence in his old home brought back the cough and the night sweats. He went back to Denver and located permanently. While he has regained his health he has not regained that conspicuous robustness which he formerly possessed. Evidently, he still has tuberculosis. It is apparent that it was arrested in its development. I have no doubt but that this doctor could bring up similar examples there in Asheville. The question I am making is, can anyone be entirely and completely cured of tuberculosis when it is extremely localized or become calcified?

I think this is the greatest question we could have up for discussion, because it concerns all humanity in every country and clime. People in all regions are affected with this dread disease. There are some places on the tops of mountains where people cannot live, but simply exist, where they are free from consumption. Some people will go there and drag out a miserable existence, preferring to live there than to die, but they cannot be said to be living. These places are devoid of all comforts. They have to climb to these houses by holding on to the branches of the trees and catching hold of the rocks. They live there simply, as I have said, because they prefer to be alive in a situation like that than to die elsewhere.

Now, we must realize at the same time that climate has a great deal to do with this disease. You have heard it said that an ounce of preventative is worth a pound of cure, and in a case like this I think it is more than true. When we find we have a subject of this kind—a tuberculosis subject—we should see to it that they do not infect others. (Applause.)

Dr. Hayden: The question is very interesting to me. The question comes up when we have made a diagnosis of tuberculosis in its incipiency, long before the tubercle bacillus is in the sputum, what are we to do? If we can make a diagnosis at the proper time and have the patient live out of doors, wouldn't it be much better? After we find the bacillus is in the sputum, then we usually send them away, and sometimes they will recover. I have had patients leave here whose sputum was loaded with bacilli, and they would go to a higher climate and apparently get well, and as long as they would remain in this climate they would remain all right, but usually when they return to the old climate it all returns. We have incipient tuberculosis in the lungs quite a good deal before we find the bacillus in the sputum, or, in other words, before it breaks out and gets into the sputum. If the doctor could give us some idea of how to determine that we had such cases before the tissue breaks down it would certainly be a great help to us. I have come to the conclusion that we have tuberculosis when we have a persistent cough that cannot be controlled, even without the night sweats, and with or without fever. If a cold will not yield to ordinary treatment I have almost come to this conclusion. If I have a case come to me and the patient has a persistent cough and still has the cough in spite of all we can do, and continues to have the cough for any considerable length of time, I have come to the conclusion that there must be some tuberculosis deposited back of it, even though we cannot find a tubercle bacillus. I decide this before I know positively whether this is true or not.

Dr. Davis: I think the doctor has given us a most excellent paper. He has told us much about tuberculosis. I think he struck the key-note of the trouble when he said that the nerve-centres—the nervous system—is responsible, in a great measure, for allowing the patient to become diseased with tuberculosis. That is probably correct. I was in hopes that he would go on there and give some method by which the nervous system could be toned up and kept healthy and the person kept well. He failed to do that.

There are two things that I should like to mention here. They may be valuable as a preventative or a possible cure. There is nothing new, so far as method of breathing is concerned, but the only trouble is to get people to breathe enough. Ordinarily we take in about one-fifth of the lung capacity and only one-fifth as much as we should take in order to keep us well. It is a good thing to get the patient to breathe rightly. I will tell you how to do this, and if it is worth anything all right, and if it is not, just pass it by. I do this every day myself. This accounts for my condition. I inhale ten seconds and hold my breath for ten seconds, and let it all out as near as I can in five seconds. I keep this up for eight or ten minutes, and in this way I fill my veins with new blood, with red blood. I have more blood than I did when I started in. It is red blood that heals wounds and helps to furnish nourishment and helps to tone up the nervous centres and the nervous system and keeps it well. If you will only try this method you will not be hurt any, and if you will keep it up a month you will see the benefit from it. You will find that the chest will expand. Keep this up three or four times a day and it will be better than any tonic you can take. I can lay down at night and sleep well without taking any medicine. I think there is no better method of toning up the nervous system. Some people do this by hand, and others do it by machinery. I believe it is an acknowledged fact that in every case where there is a diseased organ the nerve centre itself is also affected. By toning that up you stimulate the organ and the blood-vessels are dilated and the capillaries increased, and the trouble is taken away. This is sometimes done with machinery.

I think this is all I want to say. I wish to thank you for your courteous attention.

Dr.———: I want to speak on glandular enlargement. The question has been raised as to whether or not these glands are always infected with the tubercle bacillus, and whether glandular enlargement is the result. I am willing to take the words of Miller, and men who have done more than I have done in this methodical work. I want to raise a question for information. Are we justified in removing enlarged tonsils? Some would say that we should leave the tonsil there. We know that the lymphatics are all over the body, and we know that the lymphatic structures are one mass of lymphatics. Shall we leave them here to help destroy the tubercle bacilli or remove them? What shall we do when a child comes to us with enlarged tonsils? They do not get the oxygen they should get. It is a question as to whether or not we should deprive the child of the oxygen or take out the tonsils and remove the gate-way for the entrance of the tubercle bacillus. There the question hangs. I believe we will differ as to this because we differ as to the term of cure. The question is, is there really a cure? I think we are all alike, and that we are constantly inhaling tubercle bacilli to a greater or less extent.

What is tuberculosis? Do we have it when the mucous membrane or air cells contain tubercle bacilli? We know from experience that we are able to cope with a certain number. When we are unable to cope with them do we have tuberculosis? We have it only when the infection has produced some pathological condition.

I should like to hear the doctor's opinion as to whether or not we should remove the tonsils. We do not get enough education in this way. We grow more or less careless of our surroundings. When a man of the ability of the doctor that has written this paper comes among us it is well worth our time to hear the paper and study over it, and I think we ought to give him a vote of thanks for his excellent paper.

Dr. Welbourn: This paper has seemed more excellent to me because it makes us realise we are at fault in making some diagnoses, and I would like to ask a few questions and have them answered by the doctor in his last talk. Sometimes I have patients in the early stages of tuberculosis that I wish to send away, and I do not know where to send them, because we all realize that what will help one kind of a case will not help another, and we know what influence various climates have on various people. Some patients, I think, should go to such places as Asheville, and possibly this would not do at all for other classes of patients. Others would be better in the mountains. I should be very thankful to Dr. Paquin if he could give us some idea of where different patients should be sent

Dr. Lawrence: If an abrasion of the mucous membrane is absolutely necessary to infection, why is it that many of the cases of tuberculosis are absolutely local or in some peritoneal structure? Dr Paquin suggests a debilitated nervous system back of the development of tuberculous conditions, and I think this suggestion is very valuable. Most of us discuss this question from the standpoint of a general infection or a pulmonary disease pure and simple. The patient will recover from this condition and gradually their health will reappear. They do not do that in every case. We must look out for an infection of the mucous or mesenteric glands of the intestinal wall. Some of these cases can be cured. The infection is not always of an intestinal source.

The doctor has asked in regard to removing the tonsil. I remove the tonsil whenever I think it needs to be removed. I never hesitate to do this.

Dr. Griffith: In regard to removing the tonsils, I want to answer in the affirmative. I do not believe that every tonsil is a tubercular tonsil. If this were true I believe that the human race would have been gone long ago. We all know that there are diseased tonsils. Therefore, a diseased tonsil must of necessity infect the healthy tonsil. A tonsil should be removed, then it becomes less receptive to infection. When we have a diseased tonsil we have an increased blood supply there. When we remove the tonsil we have scab tissue. I think it is advisable to remove the tonsil if occasion demands it.

Chairman Stone: We have devoted as much time as we ought to this paper, and I think the discussions had better close.

Dr. Paquin: I am sorry I am taking so much of your time, but there are a number of questions to be answered.

Dr. Floyd: I think we ought to give this doctor more time, Mr. President.

Chairman Stone: I am willing.

Dr. Paquin: The first question is in respect to the tonsils. I did not mean to say it was the original tubercular infection, although I did wish to make the statement that it has been discovered by experimentation in this science that it is the source of tubercular germs. I do not wish to imply, nor does he claim, that it is always of that source, but it is always worth while to examine into these various questions.

I want to call attention to the fact that this disease does not begin in the air cells. It begins in the lymphatic glands. They do not reach the air cells. When we find the first lesions are in the lungs they have been brought there by the lymphatics. It has been absorbed from the air.

Dr. Hayden asked for an explanation of the different kinds of tubercular cases. It would require a volume, and would necessitate diagnosing different cases, for every case belongs to itself, and has its own resistance, and all the features peculiar to itself, and we must deal with the individuals accordingly. We may take the symptoms in one person and they may have fever every day and there may apparently be no cause for it. There may be enlarged tonsils, and in later years tuberculosis may develop. I take a child and examine it, and I may find that they have an enlarged zone, and sometimes right at the point of the shoulder blade, and if we observe this child closely the disease may develop, and it may be years before it would break out, but the disease is there.. Now this is one state. This is one that is early in existence. The toxines are generated at that time. After the germs get into the system they live in the connective tissue. Whether in the lungs, liver or brain, it is in the connective tissue, rarely in other ones, and very rarely in the blood.

Dr. Davis has brought up the question of the nervous system. He seems to think it is at fault. I wish to emphasize that fact. The nervous system is the first one to be affected. It must control the digestion of the foods; it must control the work of the liver, which tubes are more or less diseased; in other words, if the nervous system fails to do its work in any portion of the system or any of the vital organs, then the system is reduced in strength. The question of indigestion is usually the first one noticed, because the nerves fail to do their work. The nervous system must be nourished, of course. It matters not. There is no particular way to do it. All should co-operate. Climate, proper food, exercise, cold baths, everything in the world, everything that can produce good blood and pure blood and make the nerve cells stronger. The trouble is that we only see the patient after the disease has thoroughly developed. If you were consulted at the time and could study the disease it would be a far different thing. It is for this reason that tuberculosis is not understood by the public, and physicians are blamed because we cannot do much with it. They come to us when they are about ready to die.

No, I hardly think there is such a thing as an absolute cure. Defining the situation from professional observations in practice, good health and ill health are usually two opposite states, clearly appreciable. This conclusion is reached because it probably never occurs that a physician is consulted before the appearance of signs of disease sufficient to cause some anxiety. However, barring cases of acute infections with immediate symptoms, such a definition is erroneous. When health begins to fade and disease begins to encroach upon us it is a most obscure stage. It is a part of pathology ignored universally except by a very few medical teachers and observers. Nothing about its problems are taught in our universities and colleges. And yet it is only when we shall be as thoroughly conversant with the pathology of this, the borderland of disease, that we shall be in a position to arrest such affections as are included in the realm of refractory, usually fatal constitutional and microbic affections, such as diabetes, Bright's disease, and tuberculosis. I offer these few remarks mainly in connection with the latter disease.

Now comes the question of a cure. Some one has said that this term "cure" is a relative term, and it all depends upon what we mean by cure. It seems to me that there is no such a thing as an absolute cure. In most cases after thirty years there are lesions of tuberculosis. These would, I suppose, be called cured. There is a scab there like other conditions that have been called cured. There is a fibrous tissue formed. It is as much cured as you could expect a thing of that kind to be.

I have been asked as to where to send patients. This is a very hard question to answer or explain on account of the various climates in the United States and abroad. It is well to remember the cardinal principles back of good climate. The first is pure air, and by that I mean air free from dust and smoke, oxide of carbon or molecules of vapor or microbes floating in the air. This is a relative condition. However, altitude is not the only thing. There are three zones of air. There is one close to the earth—three or four hundred feet—and probably extends a thousand feet high on the mountain rock. It is as flat as a table and the lines are clearly marked. The lines between the two zones are as clear as crystal. The first layer is full of moisture, dust, smoke, etc. It is so thick that you cannot see the houses down below even in the clear daylight when the sun is shining. You can see to the middle and above us. The middle zone is the zone of pure air. This is found from two thousand to three or four thousand feet of altitude in most of our climates in the United States.

Many classes of patients that are sent away from home to be cured simply lose time and many sometimes mortgage their homes, or their folks mortgage their homes, to send them away, and everything is disappointment. Those who cannot be cured should be kept at home where they can have the comforts of life. There is no way of curing the cases where the lungs have been diseased and the force of resistance has been destroyed. Where it is practical the cases should be sent away, if they reach you in time. They should live out of doors night and day, cold and warm. For this matter cold weather is better than hot, because there is less moisture in the air.

It would be a long story to explain all the conditions which a physician wants to know when he sends a patient away. He should write to some one in the various climates who is entirely free from the bias of anything, and then he should make up his judgment as to where they should go, there or elsewhere. I hardly think it is possible to send a patient away now and let him get entirely well. Write to some physician whom you are sure will tell the truth, and send your patient to the best climate for this particular patient. Most patients come to us at the eleventh hour, and sometimes they say that they have been sent here and told to go to no doctor, but to climb the mountains and live in the air and they will get well. Ninety per cent. are disappointed. They may go up the mountains but they come down for the last time. This is a great mistake in any doctor. These people should be sent to some one who will watch over them and give them instructions as to the best things to do. It is the wrong thing to do to send them out to look after themselves in an altitude to which they have not been accustomed.

I have qeen asked if an abrasion of the mucous membrane is necessary to infection. Well, if that were necessary, absolutely necessary, we would not have so many cases. This is not necessary. We may have the germs in our system and not know it. The great majority of us have had tuberculosis and have never known it. We have destroyed the germs, and when we have done this we did not know we had them. If we were examined after death it would be found that we had had tuberculosis at one time.

The question has come up in regard to being justified in removing the tonsils. It is true that the ingress of the germs is through the tonsils largely. I am not prepared to answer this question, but it seems to me if the child is to die from one cause or another it is better to remove the tonsil. The scab tissue is quite a bar to the introduction of the germs. I am basing my remarks on experiments that have been made abroad.

I am sorry to have taken so much of your time. (Applause.)

LICKING COUNTY MEDICAL SOCIETY.

The regular monthly meeting of the Licking County Medical Socity met in regular session in their room in the Court House, on Tuesday afternoon, February 7, 1905, at 2 o'clock. There was a very large attendance of both city and county physicians, some fifty in number.

The minutes of the last meeting were read and approved, after which Dr. King, the Secretary, presented several names for membership. They were all elected.

After some special business of the Society was transacted the Society adjourned, after which the physicians of the county held an executive session. Dr. Garrison, of Utica, was elected President, and Dr. King, of Newark, Secretary.

The object of the meeting was to indorse the action taken by the Licking County Medical Society at their last meeting, at which the "Fee Bill" was unanimously passed. After a free and full discussion of its different features, the meeting unanimously adopted it as passed by the Licking County Medical Society, as more than 70 per cent. of the physicians had signed the bill. It was decided that the "Fee Bill" should go into force on the first day of March, 1905. The time for signing the bill was extended until the 20th of February in order to give every physician in the county an opportunity of signing it, after which it would be published in full, together with the names of all the physicians who had signed it, thus enabling each physician to have a copy to frame and hang in his office.

It is to be hoped that this action on the part of the profession will inaugurate a new era in matters pertaining to physicians' charges, which have heretofore been entirely too small. Newark and Licking County physicians do not wish to be behind their sister cities in this regard, and have inaugurated this new feature in order to elevate the standard of the profession, which has been felt to be so much needed at this time.

C. P. KING, M.D., Secretary.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, FEBRUARY 25, 1905.

THE OHIO STATE BOARD OF HEALTH.

A late bulletin from the Ohio State Board of Health announces that in the future, in order to aid physicians in making a diagnosis in suspected or doubtful cases of infectious disease, the State Board will make such examinations at its laboratory at Columbus, without charge, upon the request of any physician, provided only that such physician does not reside in a city where the local board of health is already maintaining a laboratory for such work. This innovation is in line with a suggestion made in this journal last spring, and in that the idea came to the editor from letters from and conversation with physicians in various parts of the State. the advantages of such a system will be eagerly sought. At first the examinations will be limited to pulmonary tuberculosis, diphtheria and typhoid fever, but as the scope of the work advances it is expected that other diseases will be added from time to time.

According to the regulations of the Postoffice Department, it is against the law to mail disease specimens except in special containers approved by that department. It would obviously be impractible for efficient service to send to Columbus for these containers whenever a physician desired an expert examination. To meet this the board have arranged to place a supply of the different containers necessary with reliable druggists in each county seat, who will furnish any physician in the county with them on request. The druggists, to their honor, have consented to do this without compensation, and the entire cost to the attending physician will be the postage. Each mailing case contains printed directions for collecting specimens, as well as a blank for a report of the case under examination. The Board requests that specimens should not be mailed so that they will arrive at Columbus Saturday afternoon or night, or Sunday morning, as in this case they cannot be examined before Monday morning. Specimens should be mailed as soon as possible after collecting. As examinations in the case of these three diseases require but a short time, it is expected that report from the laboratory will be prompt, though in order to increase the efficiency of service still further, the report will be telegraphed at the attending physician's expense if requested. In the case of diphtheria the following valuable advice is given:

"In suspected cases of diphtheria the patient and all children in the house, should be kept in until the results of the examination are made known. If the bacteriological examination is negative, but the clinical symptoms still indicate diphtheria at the time such report is received, the case should be considered as diphtheria and quarantined as such. In all such cases a second examination will be made if requested. On the other hand, if in any cases in which the Klebs-Loeffler bacillus is found the clinical symptoms are doubtful or absent, it is better to give the public the benefit of the doubt and enforce proper preventive measures. This would be especially true when cases of diphtheria were present in the neighborhood."

Where a local outbreak of typhoid throws suspicion upon some body of water, the department is prepared to make an examination of a sample of the water without charge, but at the request only of the local health authority. This examination will report both chemically and bacteriologically, the latter determining the number of bacteria present and the presence or absence of the colon bacillus.

The State Board of Health, and especially their secretary, Dr. C. O. Probst, have reason to be proud of this great step forward in public sanitation, and it is hoped that the physicians of the State will take advantage of the splendid facilities so generously advanced.

INFECTION FROM LIBRARY BOOKS.

In its issue for February, *Public Libraries* prints a letter from the city librarian of Baltimore, from which letter we make the following extract:

> "This library has been in existence now for about nineteen years, and during that time has had in its employ about 175 clerks of all ages, and among these clerks there has not been a case of any contagious disease, which I think is very good proof that there is very little danger. For the past eighteen years there has not been a single case of contagious disease of any kind in any of the public deparments of the main library or its branches. As there are now more than seventy-five persons employed in these departments, and as each book is handled by not less than three persons between the time of its return and re-issue, it seems probable that if contagion were readily carried by the books, the library employés would be affected."

It is unfortunate that just at this time, when attempts are being made looking toward the prevention of possible infection from this very cause, that the opinion of a lay writer should receive such prominent attention. It is well known, and has been brought prominently before the profession by every authoritative medical writer upon the subject, that the contagion of most of the acute infections, particularly such diseases as scarlet fever and diphtheria, can be readily disseminated by "a third party or by fomites."

Osler, in speaking of scarlet fever, has this to say:

> "The poison clings with great persistence to clothing of all kinds and to articles of furniture in the room. In no disease is a greater tenacity displayed. Bedding and clothing which have been put away for months or even for years may, unless thoroughly disinfected, convey contagion."

In respect to diphtheria, the same authority states:

> "The virus attaches itself to the clothing, the bedding and the room in which the patient has lived, and has in many instances displayed great tenacity. It has been found to live on blood serum for 155 days . . . . , and on a child's toy, which has been kept in a dark place, for five months."

Holt is, if anything, even more emphatic in his remarks. What more easy to infect, what more easy to carry infection, than a book which a child may have been handling during the stage of convalescence from one of the acute exanthems? Indeed, it is this stage of desquamation that diseases of this class, especially the ever-dreaded scarlet fever, are most greatly to be feared. The letter above cited is calculated to convey a wrong impression, as it gives a record for adults only, or at least for clerks presumably considerably beyond adolescence; while it must be remembered that the common contagious diseases are, as a rule, diseases of childhood, in the case of scarlet fever, according to Murchison, over 20 per cent. occurring before the tenth year, while in diphtheria a "large majority" occur before the fifteenth year. It must also be borne in mind that many of these employés have already passed through one or more of the infections of childhood, and these attacks, if not protecting absolutely from future infection, at least greatly diminish the susceptibility to those diseases from which they have already suffered. The statements furnished by the above letter are of no value; indeed, they exert a pernicious influence in that they tend to draw those in charge of public libraries away from a most important side-line of preventive medicine.

MYOPIA.

There are a few old ophthalmic themes which never become hackneyed. Myopia is one of them. The subject is occupying fresh interest just at present because of the anatomic theory promulgated by Stilling.[1]

His theory is that myopia is produced by the binding on the eyeball of the reflected tendon of the superior oblique muscle in certain individuals possessing wide and low orbits. In these individuals the pulley is relatively low and the tendon passing back over the summit of the eyeball is in binding contact with the globe. The tension of the tendon is increased in the act of reading, sewing or converging the eyes on close fixation. When the superior oblique acts it directs the cornea down and out, but this means that the posterior pole of the eyeball is directed upwards and toward the nose, and in such action the tendon is drawn shorter. In the act of converging the tendon is elongated, at the same time drawn tense enough to prevent the rotation which would take place if the inferior rectus were to act unopposed. The eyeball is squeezed on from above and has a tendency to elongate.

Thus it is that broad-faced individuals having wide pupillary distances are prone to develop myopia, while high-faced persons having the reverse orbital formation will not develop myopia. In them the trochlea lies high and the superior oblique muscle cannot exert a pernicious pressure on the plastic eyeball, no matter how much near work is done even under the most unhygienic influences.

Stilling has studied the effect of tendon pressure on the eyeballs of myopes having the wide orbits and low trochlea by making a series of post-mortems on subjects with such conformations, and has noted the depression referred to.

His teachings are controverted by Hamburger, of Berlin, who made a study of 118 myopics and found that 75.9 per cent. of them had high orbits. He explains the post-mortem findings of Stilling by declaring that the soft tension of the eye after death would explain fully the presence of the pressure groove. Nevertheless, the opinion of such an eminent authority as Stilling carries great weight, and we are reminded that most of the pernicious myopias that we have seen are among persons having the orbital conformation referred to by him as a cause.

D. T. V.

EDITORIAL NOTES.

Academy of Medicine.—The meeting of Monday evening, February 27, will be devoted to the report of cases, exhibition of specimens, etc.

Report of the Bureau of Infectious and Contagious Diseases for the week ending February 17, 1905:

Disease.	Cases.	Deaths.
Measles	3	0
Diphtheria	9	2
Scarlet Fever	8	1
Typhoid Fever	13	5
Smallpox	8	0

Dr. M. L. Heidingsfeld was in Ann Arbor and Cleveland on February 16 and 17, where he gave demonstrations before the medical students and faculty of the University of Michigan, and before the members of the Cleveland Academy of Medicine. He exhibited the new Heraeus mercury lamp, and explained its scientific and therapeutic applications, and exhibited a number of lantern slides of both general and special interest.

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[1] Wien. med. Wochen., August 20, 1904.

THE new catalogue of the Cincinnati Polyclinic and Post-Graduate School of Medicine has made its appearance in interesting and attractive form. It is the first official invitation for students who desire advanced medical instruction from this institution. It is understood that about five thousand of these catalogues will be widely distributed over Ohio, Indiana, Kentucky and adjoining Eastern, Southern and Western States, and that this feature of the work will receive active and considerable attention from now on. May success crown the efforts of its active and progressive faculty!

Surgery.

P. S. CONNER, M.D.
J. C. OLIVER, M.D.
H. J. WHITACRE, M.D.
H. A. INGALLS, M. D.

Effect of Tubal Abscess Upon the Position of the Ureter.

Young (*Boston Medical and Surgical Journal*, February 16, 1905) reports the results of investigations conducted upon the living and upon the cadaver with a view to determining with accuracy the danger of injury to the ureter during the operation of vaginal section for the drainage of collections of pus in the Fallopian tubes. The portion of the ureter concerned is that which lies on the pelvic floor under the broad ligament. The study upon the living was conducted by catheterizing the ureters, then tracing the ureter in its relationship to the abscess. Inasmuch as it is impossible to imitate the condition of acute inflammation in the living, the observations upon the cadaver were limited to the manner in which displacements might occur. The following observations were made on the cadaver:

I. Traction.

II. Upon the cadaver.

Unfortunately, it is impossible upon the dead to successfully imitate the condition of acute inflammation in the living, or to produce the distension of the Fallopian tubes which we find in life. Hence such experimentation gives us only a clew as to the manner in which these displacements are produced.

My observations upon the cadaver show:

1. Traction upon the broad ligament toward the side of the pelvis draws the ureter outward.
2. Distension of the Fallopian tube by injections under pressure into its lumen causes it to straighten in the same manner as when water is forced into a rubber hose.
3. Injections into the broad ligament produce no effect upon the ureter.
4. Drawing the uterine body toward the side of the pelvis does not affect the ureter unless the cervix and upper portion of the vagina are pulled strongly to one side. It then follows to a slighter degree.

The following general conclusions are appended to the article:

1. That small collections of pus in the Fallopian tubes do not displace the ureters.
2. That larger collections displace the ureters, (*a*) outward generally, whether the ureter is above or below the mass; (*b*) downard rarely, on to the posterior cul-de-sac.
3. That such displacements are probably due to (*a*) traction upon the infiltrated broad ligaments by the distended tubes, the ureter moving with the broad ligament; (*b*) direct pressure from the growing abscess, forcing the ureter in the direction of least resistence; (*c*) a combination of both.

Previous to the investigation of this subject the operation of vaginal section has seemed to me a somewhat haphazard procedure, but in the light of what has been found, our lack of accidents seems quite fully explained.

With the exception of the few unusual cases which have been figured, the manner of displacement of the ureter seems to be quite definite, and for this reason the operation is safe in the great majority of instances. If the vaginal vault is incised directly behind the cervix, even if this is displaced, it will be seen from an examination of the diagrams that under no circumstances will any injury to the ureters take place. If the abscess cavity does not reach the wall of the vagina at this point, it can easily be opened with the finger working through the cellular tissue of the broad ligament, toward the side on which the abscess lies. H. J. W.

The Surgery of Meckel's Diverticulum.

Keefe (*Boston Medical and Surgical Journal*, February 16, 1905) reports two cases of intestinal obstruction due to Meckel's diverticulum and writes briefly concerning this anomaly. Meckel's diverticulum is a remnant of fetal life which existed in the embryo as the vitello intestinal duct. This duct connects the rudimentary intestine to the yolk sac and disappears in about 98 per cent. of human beings at about the sixth month of embryonic life. In the remaining 2 per cent. it persists and becomes a source of danger. It may spring from any spot in the small intestine, but is usually located within four feet of the ileo-cecal valve. It exists as a free blind pouch one to two inches long, or its distal end is attached to the umbilicus, either directly or by means of a narrow cord or band. This diverticulum may find its way into a hernial sac, or it may be the seat of an intussusception, chronic ulceration, ulceration and perforation in typhoid or gangrene. The small intestine may become caught under the band or it may cause secondary obstruction in a number of ways.

The symptoms of disease of Meckel's diverticulum may resemble those of acute fulminating appendicitis. The onset is usually sudden, the patient is seized with paroxysmal pains extending all over the abdomen; vomiting is an early symptom, and neither gas nor fecal matter are passed per rectum. The abdominal muscles are rigid, the percussion note is tympanitic, the pulse is accelerated and the temperature is variable. The cardinal symptoms are: (1) Sudden onset; (2) pain, general abdominal and paroxysmal in character; (3) continued vomiting; (4) absence of feces or flatus per rectum; (5) rapid pulse; (6) rigidity of the abdominal muscles.

Early recognition of the disease is very important. The great mortality quoted (65 to 75 per cent.) following operations for intestional obstruction due to Meckel's diverticulum is sufficient evidence to show that an early recognition and operation is absolutely essential to save life. The author believes that the mortality should not exceed 1 per cent. if the operation is performed within twenty-four hours of the onset of the trouble. H. J. W.

Perilous Calms of Appendicitis.

Hardon (*Boston Medical and Surgical Journal*, February 16, 1905) speaks strongly against procrastination in the operative treatment of appendicitis, and reports four cases illustrating his point and justifying the following general conclusions:

1. Defervescence of symptoms and apparent better condition of a patient do not always mean recovery, but may be the forerunner of a more dangerous condition.
2. There being no specific for the disease, no matter what treatment is used, the one who procrastinates should shoulder the responsibility for the death.
3. When a clear diagnosis is made but one treatment should be advised, that of operation as soon as possible under the conditions, or the golden opportunity may be forever gone.
4. The physician who does not explain the great dangers of delay and the small comparative danger of operation is doing his patient a serious injustice, which often leads to fatal results.
5. Operation at the proper time usually greatly shortens convalescence, and eliminates all danger from this cause hereafter.
6. Procrastination is the greatest cause of surgical deaths, operation often being performed as a last resort, when but little hope of recovery exists. H. J. W.

Two Cases of Merycism.

Raviart and Caydron (*Archives de Neurologie*) report two cases of merycism, the details of which are quite interesting, but no conclusions are drawn.

D. I. W.

F. W. LANGDON, M.D. Nervous and Mental Diseases. D. I. WOLFSTEIN, M.D.

Histological Studies on the Localization of Cerebral Functions.

A. W. Campbell (*Journal of Mental Science*, Oct., 1904) has made extended histologic investigation into the structure of the cerebral cortex. He utilized normal and also pathologic material. He also compared the cortex of two members of the anthropoid ape family and several of the lower animals.

The brain harbors two varieties of centres — "primary," common to all animals and essential to survival, viz., centres for movement and common and special sensation; and "higher evolutionary," concerned in the higher psychic functions which distinguish man.

The "motor" area is as easy to recognize histologically as experimentally. It is confined to the pre central and does not spread to the post-central gyrus. It is mainly characterized by the giant cells of Betz. Proof on the pathological side is afforded by the finding in amyotrophic lateral sclerosis and in the brains of individuals who have undergone amputations.

The sulcus cruciatus of the lower orders is not the homologue of the Rolandic fissure. An isolated fissuret on the posterior limb of the sigmoid gyrus forms a sharp histological boundary between motor and what Campbell regards as a common sensory area. This he regards as the homologue of the Rolandic fissure, which is not a dividing line, separating the motor area into halves, but the posterior boundary of the motor area. Motor representations are in three levels (Hughlings Jackson): Simple movements in the anterior cornual spinal cells; secondly, primary automatic of more complex type in the giant cells of the pre-central gyrus; Campbell places the third centre for skilled or higher evolutionary movements in a zone immediately adjoining the pre central, called by him the "intermediate pre-central." It embraces two important centres for skilled movement, at its foot Broca's speech area and above this the cheiro kinesthetic centre for writing.

This strip also contains a series of centres for skilled movements connected by commissural fibres with the automatic simple centres in the pre-central gyrus. The rest of the frontal lobe is divisible into two areas, which are termed "frontal" and "pre frontal."

The pre-frontal subdivision is structurally extremely weak, and that it is so functionally is further proven by its electric inexcitability and by clinical experience. Histology supports the view that phylogenetically it is the very last pallium to appear. The cortex, which is comprised under the "frontal" subdivision, is more extensive in man than in the ape. Campbell does not dispute Flechsig's doctrine that the frontal lobe must be a higher association centre, but accepts cautiously the evident support afforded by the atrophy in this region in cases of dementia, especially paralytic dementia, inasmuch as the cortex of the frontal lobe is built upon an extremely weak and collapsible frame work of nerve fibres, especially when compared with the central gyri, occiptal lobe and other parts.

Cortex of the Parietal Lobe.—Campbell "plumps" for the view that the post-central gyrus is the main terminus for common sensory impressions. Histologically the difference between the two gyri which are divided by Rolando's fissure is even macroscopically noticeable.

Further, he advances in support of the sensory nature of the hinder gyrus, first, early medullation, as in the posterior tracts of the cord; second, the work on secondary degeneration of the cortical lemniscus (upper sensory neuron); and third, changes which he finds in the post-central gyrus in tabes, a disease as clearly restricted to the sensory neurons as amyotrophic lateral sclerosis is to the motor.

Adjoining the "post-central" area proper, which may be regarded as a primary centre for the recognition of the simplest components of common sensation, is an area containing higher evolutionary "sensory centres," lesions which may possibly give rise to isolated disturbances of higher sensory components, *e.g.*, astereognosis, loss of muscle sense, etc., sensory components involving a higher psychic process. These are included in the "intermediate post central area." Between this "sensory" area in front and the "visual" area is a vast area embracing Flechsig's posterior association area, an area in close anatomic relation with all forms of sensory components, both common and special.

This area is probably a field for the further elaboration and interpretation of impressions primarily received by the various sensory areas. In phylogenetic development the progressive increase in size of the frontal lobe, which Hitzig contended was proportionate to intellectual capacity, *is not more marked than a similar progressive increase in the expansion of the parietal lobe.* In upward evolution both frontal and parietal lobes undergo equal expansion. An interesting point made by Campbell is that in agenesis the parts most prone to suffer are those which are phylogenetically youngest. In three cases cited (idiots) all the motor and sensory centres were well developed, but the frontal gyri anterior to the pre-central and the parietal behind the post central areas showed marked microgyria. The visual cortex is divisible into two areas; one follows closely the calcarine fissure (marked by the line of Gennari), is probably the primary centre for visual impressions; the second an investing area called the visuo-psychic nerves for further elaboration of these impressions. The primary auditory area Campbell locates on the transverse temporal gyri, while the audito-psychic centre corresponds in distribution to the well-known "word-hearing" centre. D. I. W.

Paranoia.

R. Percy Smith (*Journal of Mental Science*, Oct., 1904), in his presidential address at the sixty-third annual meeting of the Psychological Association, which is a most able review of the whole subject, traces the development of paranoia and contrasts its position in the psychiatric classifications of the various nations. He particularly emphasizes the conservative position of the English school on this subject, and shows most interestingly that even in the country of its origin there is no common agreement as to the connotation of paranoia. Smith's conclusions are as follows:

1. The term "paranoia" is useful if it is limited to cases of chronic delusional insanity in which there are organized and systematized delusions, whether of persecution or exaltation, and whether these run separately, concurrently, or by transformation from persecution to exaltation, and whether the disorder originates in childhood and youth (*originare paranoia*) or later in life (*tardive paranoia*), and whether associated with heredity or not.

2. In all these cases the importance of the affective element of mind must not be ignored, and it is erroneous to use the term "paranoia" as implying primary intellectual disorder to the exclusion of, or prior to, disorder of "affect."

3. Allowing that there are acute cases in which delusions appear to be organized and systematized, and yet in which recovery seems to take place, many of these cases are merely the initial phase of chronic delusional insanity with a remission of symptoms.

4. If the incubus of the idea of primary intellectual disorder be got rid of, there is no difficulty of recognizing that some cases of paranoia may begin with an acute functional mental disorder of the nature of melancholia or mania (as is, indeed, recognized even by those who take the primary intellectual view), or even may follow a delirious or confusional state.

5. With this exception, acute confusional insanity (*acute Verwirrtheit*) and acute delirious states (acute delirium, collapse-delirium, *Erschopfungs-delirium*) should be regarded etiologically and clinically, and from the point of view of diagnosis and prognosis, as entirely apart from paranoia or chronic delusional insanity.

6. Mercier's term "fixed delusion" should be used for states secondary to acute forms of insanity, where the persisting delusions are not organized or progressively systematized.

7. With regard to terminal dementia in paranoia, it is trying to prove too much to say, as some authors do, that dementia does not ever supervene in this condition; and I think that Kraepelin's action in removing a large group of cases in which terminal weak-mindedness occurs from the domain of paranoia to that of dementia precox is an open question. There seems to me a possibility that dementia precox, with its hebephrenic, catatonic, and paranoid forms, may become the new universal disease ("*Universalkrankheit*")

into which large numbers of cases may be thrown and which will give rise at no distant date to as much discussion as has attended paranoia. D. I. W.

Contribution to the Study of the Functions of the Optic Thalamus.

Benaky (*Archives de Neurologie*) reports a case in which there were constant movements of a menacing nature, accompained by a spoken threat of striking. Accompanying these was a forced mocking smile, the effect of which was accentuated by a ptosis (right eye) and external squint.

Other symptoms present, in addition to the spasmodic movements in the right arm, besides those above noted, were paralysis of the lower extremities, inability to stand erect, augmented reflexes, intellectual torpor.

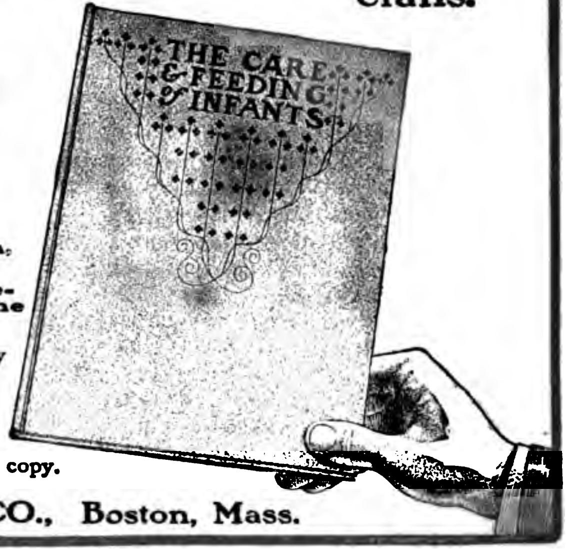
Autopsy revealed a glio-sarcoma of the parietal lobe which invaded the frontal lobe and had involved by a downward prolongation the *posterior part of the optic thalamus*, the *internal* capsule, nucleus lenticularis and external capsule.

Attention is especially directed to the spasmodic menacing movement accompanied by the appropriate word and the forced, almost mocking, smile—phenomena which belong to the domain of mimicry.

Benaky reviews the case of Nothnagel, wherein, with preservation of voluntary contraction of the facial muscles, there was inability to laugh. In this case, as in Gowers' case, there was destruction of the thalamus. On the other hand, Yimoucopoulo reported a case where, along with the facial paresis, there were spasmodic movements and continual forced laughter.

In this case the autopsy showed a small cyst in the posterior portion of the thalamus. He thinks irritative lesions in this region may cause forced movements of the facial mimic muscles; destructive lesions, on the other hand, paralysis of the mimic movements of these muscles.

This pathologic gaiety was explained by Oppenheim and Eisenlohr as a consequence of an irritative lesion of the thalamus. Benaky presents his case as one due to irritative lesion. D. I. W.



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REPORT ON OPERATIVE WORK IN THE URETER THROUGH THE AUTHOR'S CATHETERIZING AND OPERATIVE CYSTOSCOPES.*

BY BRANSFORD LEWIS, M.D.,
ST. LOUIS, MO.

The report herewith presented contemplates the consideration of intra-ureteric operative work through the cystoscope in three relations:

A. As a practical and reliable procedure.

B. As a diagnostic measure: (1) For determining the cause and location of obscure urinary affections; (2) anatomical and pathological deviations; (3) physiological activity of the kidneys.

C. As a therapeutic measure: (1) *Per se*; (2) as a means of applying antiseptics, astringents, lubricants, hemostatics or other topical medicaments; (3) permitting of operative manipulations: (*a*) for the removal of calculi; (*b*) for dilating strictures; (*c*) for facilitating kidney drainage; (*d*) for pelvic and ureteral irrigations.

It is believed the time is opportune and the profession ready to hear the testimony of actual experience with this comparatively new procedure, and this report is intended to fulfill that desideratum, briefly recounting some of our work done during the past two years. For, although the first model of my *catheterizing* cystoscope was presented before this association in 1900, it was not until two years later that the mechanical problems of the instrument were overcome; and the *operative* cystoscope I have had only during the past year.

With reference to the first consideration, the *practical utility* of ureter catheterization and manipulation, I may say that in the time mentioned I have catheterized upwards of two hundred times, and failed in, possibly, a half-dozen times, including all cases, normal or pathological, male or female. This is something like 3 per cent. failure. It would appear, therefore, that the practical utility of ureter catheterization is established, in so far as the reliability of executing the procedure, with proper equipment, is concerned; testimony as to diagnostic and therapeutic efficacy appears in the recital of the following cases.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11-13, 1904.

Among the most interesting features connected with this work, and one that promises to be one of the most valuable, is its bearing on ureter calculi. While my experience has been too recent and too limited to permit of fixed judgment on the subject, it has been sufficient to make me a firm believer in the efficacy, within certain limits and in certain cases, of intra-ureteral manipulations for the removal of such foreign bodies. As has been the case with ureter catheterization, so it will be with this: One's success should increase with constant study of the subject and the maturing of methods and means of overcoming the many and difficult obstacles presented.

One at first thought might deem it impossible to do any effective intra-ureteral work aside from that of introducing a catheter into the channel. But this does not by any means compass the possibilities. In connection with ordinary catheterism, one may inject varying quantities of medicated fluids or oils, the presence of the catheter and the injections serving to dilate the canal and facilitate the passage of the stone, both by direct increase of the ureteral calibre, and by overcoming spasmodic contraction of the muscles of its walls. But by means of my operative cystoscope I have been enabled to go further than this. I have placed a metal dilator well within the ureteral channel, and, while withdrawing it, have stretched it to a marked degree. I have inserted a metal forceps a half inch within the ureter, demonstrating one's ability to go that far with such an instrument after a calculus lodged within the ureter. I have had constructed, and have used sufficiently to demonstrate its practical possibilities, a *flexible* metal ureter-forceps, the flexible part of which could be sent up a ureter channel for a distance of two inches, there to be opened and enable the operator to grasp and remove a stone of small dimensions. Before I was able to use this first model of the instrument in a stone case, one of the blades broke, because of its defective construction and the newness of the problem to the workman.

I wish to show a little ureter-scissors that has already been of service in assisting in the opening up of strictured ureter mouths.

There are several forms of ureter-dilators for the purpose of widening strictured ureter channels; and bougies made of silk-web or whalebone, in successive sizes. These various instruments are used in connection with my *operative cystoscope* (Fig. 1). It is constructed largely on the plan of the ureter-cystoscope, but with the following differences: The ureter tubes for conducting the catheters are absent, affording more room for observation and manipulation through the main channel of the instrument. The ocular window is perforated for the passage of the ureteral instruments, forceps, etc., so that they are manipulated while in view of the operator. The window serves to assist in retaining air in the bladder, a sufficient supply of which is constantly maintained by means of the air pump. The air is warmed by being pumped from above an alcohol flame.

The same advantages appertain to working through air as a medium for bladder distention here as with difficult cases of ureter catheterization. While air is not as agreeable to the bladder as a fluid medium, the operator's work is not stopped by clouding of the field immediately bleeding occurs to any marked degree, which is all the more likely to occur in operative maneuvres. The operative cystoscope is simplicity itself—a straight tube, with a beak containing the cold electric lamp; no lenses or prisms; the only thing that intervenes between the eye and the operative field is the glass window, previously mentioned. It has only enough magnification to make the image sharper. A removable ureter catheter-carrier is also supplied, to make it possible to introduce the flexibre catheter with this instrument also, if it is desired. The size of the cystoscope is 27 French. Air is pumped in or allowed to escape through a cock.

CASE I.

Chronic Lithiasis, with Calculous Formations in the Kidney, Ureter and Bladder; the Opposite Kidney Inactive; Removal of Stones from the Only Active Kidney by Nephrotomy, and from the Bladder by Means of the Operative Cystoscope.

H. H. S., male, aged twenty-eight, soldier. The patient has for many years been the subject of stone formation in his urinary tract, has voluntarily passed many particles of sand, and has had several calculi removed from him. While campaigning in the Philippines in 1899 the urgent symptoms began, with frequency and urgency of urination. Two little stones passed through the urethra, and a third lodged near the orifice of the urethra and was removed by an army surgeon. A year later more passed in the same manner. He went to the City Hospital in St. Louis, where Dr. Nietert opened the bladder, suprapubically, and removed a stone three-quarters of an inch in diameter. (A, Fig. 3.) About a week later the patient suddenly felt severe pain in his right side, running down into the right testicle. This pain disappeared shortly afterwards and has not recurred since—a remarkable fact, in view of the subsequent developments, the finding of numerous calculi, small and large, in the ureter and pelvis of that side.

My attention was first called to the patient by Dr. Nietert in April, 1903, when he was passing exceedingly foul, cloudy, purulent urine, slightly acid in reaction. Double ureter-catheterization was done at one sitting; within twenty minutes the right kidney discharged ten drams of urine into the test-tube, the left one only one and three-fourths drams. The urine from the right kidney was of fairly good, yellow color, 1,008 specific gravity, cloudy from pus and blood corpuscles, and also contained renal and ureteral epithelia and a few hyaline casts. The urine from the left kidney was of pale, milky color, densely purulent, 1,002 specific gravity. This finding, especially when taken in consideration with another ureter-catheterization done on May 5, and giving the same results, indicated that the left kidney was doing practically no work; that all of the urinary excretory work was being carried on by the right kidney. And yet this right kidney was badly afflicted—not alone with suppurative inflammation, but also by the presence of calculi in it; for, after each of the ureter-catheterizations above mentioned, a number of small ureter stones had passed from the bladder (some are shown at A, Fig. 2), and in each instance he could feel them pass from the right ureter into the bladder, he said. Some of these stones were caught in cheese-cloth, at the time of urination, and I present some of them to you; the remainder, numbering probably twenty or more, were lost by the breaking of the bottle. Although the patient felt somewhat relieved after the passing of the calculi each time, there was no clearing up of the symptoms and troublesome conditions present; the urine remained highly cloudy, purulent and foul-smelling. Frequency of urination was excessive and the general condition was not improving. Believing that more calculi existed in the right kidney, I suggested that an X-ray photograph be taken, which was carried out by Dr. John Young Brown, at the Hospital; the photograph showed two shadows apparently in the right kidney, one above the other. These we took to be stones. The question of removing them, because of the existing conditions, was a serious one. We knew that the left kidney was not functionating to any practical degree; he was depending on one kidney only for renal excretion, *and yet that one contained two stones*. If they remained there it was only a question of time when it, too, would be destroyed and the patient's life would be ended. On the other hand, opening of the kidney under the circumstances entailed the risk of causing suppression of urine and having an immediately fatal result; but if he should go through the operation successfully, the chances of recovery would be fair. These matters were candidly told to the patient, who declared that he would rather take the chances offered by the operation than the unfortunate certainty offered by the non-operative plan.

So that, on May 26, 1903, by courtesy of Dr. Brown, and with the assistance of himself and his internes, I cut into the right lumbar region, incised the convexity, pushed my finger down into the kidney pelvis and felt and removed the stone shown at B, Fig. 2. Feeling in the substance of the lower pole of the kidney, I felt a calcareous mass, not a formed stone, which was removed by scooping with the finger and washing with a stream of water. A flexible ureter-catheter was passed down the ureter, meeting with no obstruction. The major part of the kidney incision was sewed up, enough of an opening being left for drainage by gauze packed in it. The patient recovered from the effects of the operation with surprising ease and promptness, urine appearing in the bladder on the same evening, and there was only transient rise of temperature. He was up and walking around in three weeks and gained much weight and strength during the next two months.

Shortly after returning from my vacation, in September, the patient called on me complaining of irritation at the bladder neck and frequency of urination; he said he believed there was another stone in his bladder. He had had much experience in this line, and felt that he was in position to judge. On looking into the bladder through the cystoscope, I found that he was correct; a white stone of oval shape, a half inch in thickness, by three-quarters of an inch in length, lay in the bas-fond.

Through the operative cystoscope, I introduced an alligator forceps, catching the stone and breaking off parts of it, removing them at the same time. The forceps had not then been constructed for such work, however, and were not strong enough to break the stone satisfactorily; so the cystoscope was temporarily withdrawn and the stone crushed with a lithotrite. Several fragments were washed out through the washing tube; when no more came the operative cystoscope was again introduced and other fragments were detected and removed. They are shown at H, in Fig. 2.

It was apparent, from this experience, that stone fragments could very readily be left in a bladder after crushing and washing, especially small ones, hugged in the folds of the mucous membrane; and, further, that the operative cystoscope would offer much advantage in detecting and removing them. By this means the bladder was cleared of all fragments and débris. The only subsequent treatment carried out was occasional irrigation of the kidney pelvis with antiseptic solutions, through the ureter-catheter. His condition has been sufficiently good to enable him to go to work, in which he has been engaged during the past year.

With the exception of the cystotomy done by Dr. Nietert, and the nephrolithotomy done by me, all of these various procedures were carried out with local anesthesia, secured with cocaine. If general anesthesia had been used each time it is probable that material damage would have been done to his sole remaining (so far as functionation was concerned) kidney. Instead of which, he has gained a number of pounds in weight, and the last time I saw him he was passing better urine than at any previous time since I have been acquainted with him.

CASE II.

Urethral Calculus; Colic; Catheterization and Irrigation; Passage of the Stone.

Mr. T. J. S——e, of southern Illinois, aged forty-three, while in St. Louis buying goods, about mid-day of February 5, 1903, was suddenly stricken with very severe colicky pain in the left lumbar region, not running thence downward and forward into the groin or the left testicle. The pain was so great that he rolled about on the pile of dry-goods on which his friends had placed him. My first effort on being summoned was to relieve his pain with a half grain of morphia hypodermically. He shortly afterwards passed urine into a bottle and was examined before any instrumentation was undertaken. Blood corpuscles were numerous in it, seen microscopically, although the urine macroscopically was clear: No pus was to be found in it then. The patient was sent to the hospital and kept under observation from the 5th to the 9th, during which another similar attack came on and required morphia and hot applications for relief, and the blood corpuscles persisted in the urine. On the 9th, with cocaine anesthesia, I performed synchronous double ureter catheterization, obtaining perfectly clear, good urine from the right kidney, but quite bloody urine from the left, which, also, was loaded with epithelial elements. The left ureter was irrigated with formytol solution, which, when sent well up into the renal pelvis, caused a painful sensation like the one of which he had already complained. Although he had been urinating through a gauze strainer since his first attack, nothing had been caught in the urine, but on the night following the catheterization little pieces of calculus, shown herewith, were passed and caught in the strainer (C, Fig. 2). He rapidly improved after that; there was no recurrence of the pain, and the urine became clear of blood corpuscles after a moderate time. He was put on an anti-uric acid dietary, and advised to drink plenty of good water.

For nearly a year there was no recurrence of similar trouble; so he forgot all about it and became lax in dietary regulations. In December, 1903, he again felt pain in the lumbar regions, both sides, instead of only one, and of about equal severity. He did nothing about it at first, waiting for two months to see if it would not disappear on its own account, which it did not do.

On February 24, 1904, the patient again consulted me. Blood corpuscles* were present in the mixed (bladder) urine. On March 1, under cocaine anesthesia, I easily introduced catheters into the two ureters; the one on the right side going as far as the kidney pelvis, and draining healthy urine. That sent up the left ureter met with a definite obstruction at about two or three inches from the outlet, and could not be made to go farther. Ureter drainage and irrigation followed. During the following night there was severe colic along the course of the left ureter, extending into the left testicle. It required the use of sedatives—for the first time since a year before. This subsiding in a day or so, on March 3 I again passed the ureter catheter, this time into the left one only. It went without impediment for about one and one-half inches, where it was stopped and could not be inserted farther. This was at a point an inch or more lower down than the point of obstruction met with three days before, it will be noticed. The catheterizing cystoscope was withdrawn and replaced by the operative cystoscope, through which I introduced the ureter-dilator for about one inch into the left ureter, and in withdrawing dilated it to its fullest extent. No pain was occasioned thereby, and no tearing of the ureter opening occurred; the dilatation was under the field of vision. Urine could be seen coming through the opening at the same time. Moderate ureter colic followed, but not as much as previously. On March 7 the usual ureter opening was easily found by the catheter, which entered it readily but emerged, a half inch farther on, through an abnormal opening through the roof of the part of the ureter within the bladder wall—the intra-vesical portion. There was so much irritation of the bladder at this time that I did not investigate further than to demonstrate beyond a doubt this abnormal opening and observe that it led directly into the bladder and would do no harm. No little stone was seen in the bladder. On March 11, with better anesthesia and less tenderness, I passed a catheter into the same (left) ureter opening; it surprised me by going along up the ureter without the slightest impediment until it reached the pelvis, and drained the best and clearest urine that had come from that side, two drams in quantity. No pain followed the succeeding irrigation, although it was attended by the usual colicky effect. The patient felt so good afterwards that he took the train the next day for his home. On inquiring, I found that the patient had been keeping up the gauze search for the calculus at most of the urinations, but had failed to use the gauze at some in which the bowels had moved; no stone had been detected.

The question naturally arises as to the origin of the newly-developed, abnormal opening in the upper wall of the ureter—whether caused by the dilator or the exit of the stone. I am convinced that a stone had been present and had been washed out, escaping detection. Cases are recorded in which calculi, after remaining impacted in the intra-vesical part of the ureter for awhile, ulcerate through the wall there and fall into the bladder, whence they may be passed out in urination, without the scratching sensation in the urethra that leads to their discovery. Perhaps this was such a case. The dilator is constructed so that its two arms are parallel, in dilating, so I do not believe it would cause such an effect. I know it did not cause such an effect immediately, as I was watching it closely. The question has no bearing as to any harmfulness of the effect, because there is none; but it has reference to the testimony as to the presence of stone and its escape. I have had another somewhat similar case, which will be mentioned later.

CASE III.

Calculus in the Right Ureter, of Sixteen Years' Duration; Repeated Attacks of Severe Ureter-Colic Covering that Period; Relieved by Intra Ureteric Manipulations.

A. C. W., of Jamestown, N. Y., aged fifty, lawyer; first conference September 23, 1903. Notwithstanding the patient's prolonged and severe suffering, covering a period of sixteen years, he was of robust, healthy appearance, weighing 175 pounds. The first attack came in 1886, suddenly, while sitting in his office. It was located in his right lumbar region, running down the course of the ureter into the testicle. His physician, Dr. Hazeltine, of Jamestown, thought there was a stone passing through the right ureter, but none was observed in the urine that passed. The next attack was eight years later, after which attacks came with gradually increasing frequency, five of them occurring in the month previous to his arrival in St. Louis. They were of such severity as to cause him to writhe on the floor, to require the prolonged administration of chloroform (sometimes, with interruptions, for five hours at a time), accompanied by nausea and vomiting, cold extremities, weakness and profuse sweating. And yet immediately after the passing off of an attack he would feel strong and able to attend to his duties. In his quest for diagnosis of his case and relief from its effects, the patient had conferred with many members of the profession, among whom were Drs. Janeway, Abbe, Alex. Smith, W.A. Alexander and Flührer, of New York; Leonard, Philadelphia; Blanchard and Stockton, of Buffalo, and others of Pittsburg and other Eastern cities. Dr. Leonard told him that the X-ray which he took showed a stone in the right ureter; other gentlemen had taken X-ray photographs with negative results. I detected no enlargement of the right kidney, and no very marked tenderness of the ureter except at its lower end, where he said was located the severest pain in each attack.

The urine was macroscopically clear, but by microscope it showed a small amount of pus and a number of red blood cells, singly and in clumps. On introduction of the ureter-cystoscope, the bladder was seen to be free from any especial involvement, except a moderate congestion around the right ureter opening. Urine was seen coming from the left ureter, and as the complaint had been always of the right side exclusively, it was not deemed necessary to catheterize the left one. A catheter was easily passed into the right ureter, which it ascended for about two inches; there it stopped abruptly, apparently meeting with an obstruction. It was withdrawn partly and again pushed upwards several times, each time coming in contact with the obstruction at the same point, and it did not get beyond that point. A feature worthy of note was that immediately the obstruction was reached, and before I had remarked anything on the subject, the patient exclaimed, "There's the point where the pain always is." He was positive that the trouble was located exactly at that spot. The cystoscope was taken out, while the catheter remained in the ureter for drainage. The latter was not very active, only one dram coming away in about thirty minutes. This urine (right kidney only) looked clear to the naked eye, but under the microscope showed blood cells, much large and small renal epithelium, and, most important, a considerable number of pus corpuscles, singly and in clumps (plugs.) At this séance nothing was done in the ureter except the introduction of the catheter and the repeated injection of antiseptic solution through the ureter-catheter by means of a small syringe, which, in the light of subsequent developments, is interesting and has a bearing on the question brought up in Case II as to whether the dilator or a calculus caused the abnormal opening through the intra-vesical wall of the ureter.

One week later (October 1) another cystoscopy was essayed with cocaine anesthesia, but this time the bladder was in such a hyperesthetic condition that it was decided to substitute chloroform; but the patient having eaten a hearty breakfast shortly before, the chloroform was badly borne and was discontinued after only a short glimpse into the bladder. In that short time, however, a new opening had been observed in the intra-vesical part of the wall of the ureter, at a point a half inch above the normal opening of the ureter. It is certain that this opening had not been present at the time of the previous cystoscopy.

On October 10, under chloroform anesthesia, administered by Dr. Crandall, the patient was again cystoscoped; the same abnormal opening was readily observed. I thought it might be a pocket or sacculation in the wall of the bladder, but by passing a catheter into the normal opening it could be observed passing under the new one, on upwards along the ureter channel. To be sure about it, the catheter was withdrawn and re introduced in the same manner several times, with the same effect. Furthermore, instead of meeting an obstruction in the ureter, as at the previous sitting, none was now encountered, and the catheter passed readily along the ureter as far as the kidney pelvis, and good looking urine drained from it—not enough for investigation, as I did not wish to prolong the chloroform séance longer than necessary. Previous to withdrawing the cystoscope and catheter, I felt in the abnormal opening or pocket with a metal probe and a ureter forceps, but could not see a foreign body or calculus. I interpreted this opening as being the avenue of escape for the previously existing ureter stone, although none had been detected or felt passing through the urethra. After this the patient felt much better, walked around and went driving without discomfort, improving so much in the ensuing two weeks that I considered it permissible for him to return home.

Then, on October 16, a disappointment came. He experienced another attack of ureter-colic of considerable severity, located at the same point as on former occasions, and on the day following, another attack, together with rise of temperature to 103 degrees. At this time the pain was instantly relieved by an intravesical irrigation with hot formytol solution, but it recurred with lessened severity on several succeeding days; there was renewed tenderness at the lower end of the ureter, demonstrated by abdominal pressure. I was glad to avail myself of the advantage of conference with the family physician, Dr. Hazeltine (who came on from Jamestown), and Dr. Witherspoon. We agreed to the procedure that was carried out on October 23, under chloroform anesthesia, given by Dr. Crandall. Through the ureter-cystoscope I easily introduced a silk-web catheter, sending it through the ureter to the renal pelvis and without meeting any obstruction. It was left *in situ*, to act as a guide, and enabled us to quickly identify the ureter when Dr. Witherspoon opened the abdomen through the right rectus muscle for that purpose. Palpation of the ureter upwards and downwards disclosed nothing in the ureter other than the catheter, and it could be felt as far as its junction with the bladder wall. The peritoneal opening was then closed with chromatized catgut; the peritoneal membrane was separated from the abdominal wall and between the two we arrived at the ureter itself, uncovered by anything, and permitting the most minute examination by both palpation and observation. It was seen to be thickened to something like three times its natural dimensions, was much congested and evidently inflamed. No foreign body was felt in it except the catheter. To leave nothing undone that could possibly throw any light on the matter, before the wound was closed I again looked in with the cystoscope, felt in the ureter and the abnormal opening for a stone (without finding one), and with a ureter scissors cut the bridge of ureter wall between the normal and abnormal opening. At this time I observed a ureter clot pass from the ureter into the bladder. The abdominal wound was closed without drainage. A week later there was some suppuration in the outer wound, but it was met by evacuation and drainage, and tight union followed in the next few weeks. On November 16, the patient was strong enough to return home. He had had no recurrence of ureter colic and has had none since then. He rapidly gained strength and general health; his friends unite in saying they have not seen him looking so well in many years, and he believes he has not been as well in sixteen years as he has been latterly. Before coming he was having four or five severe attacks each month; he has had none in the past ten months.

While in this case we haven't the evidence that would entitle us to explain the exact condition of affairs at each stage, I believe we are justified in interpreting the events as follows: The prolonged existence (sixteen years) of an impacted calculus in the right ureter until it was loosened and allowed to pass farther down by ureter-catheterization and irrigation; a certain degree of chronic ureteritis existed coincidently, with production of pus and mucus in varying quantities. The stone passed out and escaped detection—passed through the abnormal opening in the wall of the ureter, after creating a slough there. The attack of colic occurring after that was either the collection and passage of a plug of mucus-pus, or, more likely, an acute exacerbation of ureteritis, or both of these. The various measures served to clear the ureter and relieve its inflammation, and relief was the result.

CASE IV.

Impacted Calculus in Right Ureter; Double Ureter-Catheterization but Non-Acceptance of the Finding; Lumbar Nephrotomy, Persistence of Symptoms; Exposure of Ureter and Expression of Calculus; Relief.

This very interesting and instructive case occurred in the service of Dr. Jabez Jackson, of Kansas City, and it is with his approval that I report it in this series. I am acquainted with only the main features of the case, as follows: The patient was a male, about forty years of age. He arrived at Kansas City at the time of the meeting of the Mississippi Valley Medical Association, in October, 1902. I was asked to make a clinical demonstration of ureter-catheterization before the Association, and make use of this patient for the purpose. The patient had suffered much from pain in the back, referred especially to the right side; and from various urinary symptoms. He was very emaciated and weak. The left catheter went without obstruction to the left kidney pelvis, and drained good-looking urine. The right catheter met with positive obstruction, which was not passed, at a point about an inch or more from the lower end of the right ureter, and purulent urine drained from this side. I declared my belief in the presence of ureter stone at that point. Dr. Jackson could not bring himself to accept the diagnosis on the evidence at hand, and a week later made exploratory nephrotomy, looking for the stone in the kidney. None was found, but pyelitis was evident. The kidney and pelvis were drained and the wound was allowed to close. But the complaint on the part of the patient continued to be as great as ever—referred always to the region of the right kidney and ureter. Then Dr. Jackson made an incision over the right ureter in the iliac fossa, uncovered the ureter, and plainly felt a small body in the ureter channel an inch or so above its lower end. Several physicians and assistants in attendance felt it also, after which, when Dr. Jackson started to remove it, he found that it had slipped away somewhere, and he never felt it or saw it afterwards. Nevertheless, the patient was entirely relieved by this operation, became well and strong and went home well satisfied.

Dr. Jackson is firmly convinced that the foreign body he and the others felt was a calculus that had plugged the ureter and furnished the cause of the illness and complaints; that it was pressed along the ureter, probably into the bladder, by the palpations, clearing the canal of further obstruction.

That investigation with ureter-cystoscopy leads directly to the detection of stones in the kidney, as well as in the ureter, is shown by the following cases:

CASE V.

C. O———r, aged thirty-two, clerk, St. Louisan; investigated for Dr. John McH. Dean. Referred on March 28, 1904.

The patient, who appeared to be in poor general condition of health, said that his first attack of urinary trouble came on seven years ago, very suddenly, in the form of renal colic, left side, lasting about one day, not accompanied or followed by bloody urine or the passage of gravel. It was several years before the attack was repeated, and then later it came at frequent intervals, latterly as often as once a month, or even once in two weeks. During this period he has passed sandy particles. After such attacks very little urine flows for a day or so, and then the passage of large quantities of clear, light-colored urine, containing only red blood-cells. The colics have often been so severe as to require the use of morphine. Urine examination showed many red blood corpuscles, moderate number of pus cells, albumin, oxalate of calcium crystals.

At the office, on the day of his arrival, under local anesthesia, double ureter-catheterization was easily made, Dr. Dean being present. Both catheters passed without obstruction to the kidney pelves. The right drew clear urine, excellent in all respects; the left drew fairly good-looking urine, but containing much pus. The patient was then referred to Dr. Carman for skiagraph. Two exposures he took plainly showed shadows in the same location.

On May 7, at St. Anthony's Hospital, I had the pleasure of assisting Dr. Dean when he removed, by left lumbar nephrotomy, a uric acid calculus the size of a hazelnut. The patient made a rapid recovery, and is now back at his usual employment.

CASE VI.

Passage of a Blood Clot Eight Inches Long, a Cast of the Left Ureter, in a Case of Urinary Tuberculosis and Hematuria.

H. S———y, male, expressman, aged forty-five, married. Referred by Dr. Frumson, of this city, in October, 1903.

While investigation of this case showed that the lungs, as well as the kidneys and bladder, were involved in the tuberculous inflammation, the earliest indication of departure from health was the appearance of blood in the urine, in April, 1903. The dissemination of the infection has precluded any operative interference. But an interesting incident was the following: On March 30, last, the patient came to the office and said that another attack of hematuria was on, having begun that morning. I wished to get exact information regarding the source of the bleeding, which he told me had occurred a number of times in the past year, and therefore performed cystoscopy and ureter-catheterization at once. The right catheter went up easily and drained fairly clear urine, while the left catheter was stopped within an inch of the lower end of the ureter and would go no farther. Before putting the catheters into the ureters several thick blood clots were washed out of the bladder through a rubber catheter, but nothing like the long, slender one that I show here, that passed after the effort at catheterization. It came directly after the manipulation mentioned, and the withdrawal of the cystoscope. It was immediately placed in 5 per cent. formalin solution, which has preserved it excellently (see B, Fig. 3). The patient remarked, at about the same time, that he was much relieved of pain in the left side, which he had been feeling for several hours. The clot could not have been in the bladder or I should have observed it through the cystoscope, and it was not in the right ureter, as that was occupied by the catheter. It must have furnished the obstruction that prevented the passage of the catheter through the left ureter, and this endeavor loosened it, or dilated the opening of the ureter, facilitating its escape.

CASE VII.

Attacks of Nephralgia Simulating Renal Colic from Calculus; the Latter Excluded by Ureter Catheterization; Recovery After Adoption of Measures Based on this Diagnosis.

Under the care of Dr. Emory Lanphear, by whom I was called into consultation, January 7, 1904. Miss F———r, aged twenty-eight. In good health up to three years ago; about that time she began to experience what was termed "kidney trouble," and went to Colorado for relief. She was benefited by the use of waters there, after five months' stay. About a year ago, while standing on a step ladder, she received some strain of the back, followed by severe pain in the left lumbar region, from which she has never been free at any time since. It begins in the left renal region, passing forwards and downwards in the line of the left ureter. It is often so severe as to require the use of morphine, and causes much loss of sleep and suffering between times. She has sought the advice and care of a number of physicians, among whom, besides Dr. Lanphear, were Drs. Walsh, Bondurant, Rendelmann, Sullivan, and physicians at West Baden, in Colorado, etc. This is sufficient evidence of the extent of her suffering. While her urine was often high colored and scant, it had never been bloody; her medical attendants had found it 1,028 specific gravity at such times.

Ureter-catheterization on January 7, 1904, under local anesthesia, the left ureter only being explored, as there had never been any complaint on the right side. No impediment to the passage of the catheter to the pelvis; and the drainage gave comparatively clear urine, containing many epithelial cells of various shapes, but no pus or blood cells. Afterwards, Bierhoff's test for the presence of stone in the pelvis was applied with negative result (that is, the forced filling of the pelvis with fluid, dislodging the calculus and causing hematuria during the ensuing several days).

This investigation impelled me to the conclusion that, notwithstanding the strong resemblance to renal colic presented by the case, no stone was present at any point of the urinary tract; and that the case was one of uric acid crises, requiring antilithics, abundant water ingestion, a diet free from uric acid producers, and attention to her general condition. I have not seen the patient since that time, but, judging from the following note from Dr. Lanphear, the plan seems to have been successful: "Miss F. was put on the Weir Mitchell 'rest treatment,' with lithia, etc., as per your suggestion, and has practically recovered her health. Her brother writes me that since her return home there has been no recurrence of pain, and her general health is greatly improved." Dated, May 6, 1904.

This is but one of a number of instances I have had presented in which the negative evidence afforded by ureter-catheterization was fully as valuable for arriving at a correct diagnosis as positive would have been. For instance, a case is recalled in which the X-ray appeared to indicate the presence of ureter calculi, which were definitely excluded by catheterization. Another case may be mentioned in which a medical friend said that he had a patient with severe pyelitis, and in whom it might be interesting to demonstrate the catheterization, and, incidentally, the accuracy of his diagnosis. At his request I did double catheterization, but got perfectly clear, non-purulent urine from both kidneys. Not a trace of pyelitis was present on either side.

CASE VIII.

Bilateral Hemorrhagic Pyelitis, from Infection with Colon Bacillus.

C. C., male, aged nineteen, of Dixon, Ky., unmarried; referred by Dr. R. M. King, of St. Louis, October 6, 1902. Occupation, student. The patient said that his trouble had begun about six months before and without any venereal origin; in fact, he declared he had never suffered any venereal infection. He first noticed frequency and urgency of urination, rapidly becoming worse to such a degree that he was occupied in urinating all night on several occasions. Also, there was blood in the urine, for a week or more, and just before his arrival in St. Louis the urine seemed to be almost pure blood. Much pain attended the act of passing water each time. Examination showed that the urine was highly clouded with both pus and blood, and contained myriads of colon bacilli. The meatus, which was very narrow, was enlarged to No. 28 French on October 6. Two days later both ureters were easily catheterized; the right gave urine that was both bloody and purulent, while that from the left side was approximately clear. It was also noticed that blood oozed from the bladder mucous membrane. The right ureter urine contained the same bacterial organisms that had been found in the mixed product. Following the ureter drainage, both ureters were washed with formytol solution, 1 to 4, after which the bladder received a similar irrigation.

Internal and local antisepsis was applied, and there was moderate improvement; but this was accelerated materially by the second ureter catheterism, that was done on October 13 (five days after the first one). At this time the left ureter-urine was again clear, while the right contained blood, pus and colon bacilli, but all in markedly less proportion than before. Irrigations, as before. After this there was a progressive clearing of the urine of blood and pus, and the infective organisms. The patient returned to his home in a little less than a month from the time of his arrival, with the various symptoms subsided and both urines clear, no blood showing even under the microscope.

CASE IX.

Chronic Severe Hematuria; Bleeding from the Bladder and Both Kidneys.

This was one of the most interesting, as well as gratifying, of our ureter cases.

G. D. B., aged fifty-six, American, married, merchant, of St. Louis; case of Dr. T. C. Witherspoon, by whom I was called into conference on February 9, 1903. While the patient was of robust build and healthy appearance, he had for years noted a tendency to vascular relaxation at various parts of the body, in the skin of the lower limbs, the scrotum, etc., and he had suffered much from adenoids in the nose. This did not detract from his feeling of general good health, however, which was maintained for a month or more after the beginning of the attack of hematuria, the first indication of his affection. This began in August, 1902. It was intermittent for a month or two; was not attended with pain or any other symptom that he observed. In October, following, it was quite severe, giving the urine the appearance of pure blood, bright in color. His first medical attendant gave ergot, which did no good. Dr. Witherspoon was then consulted, and prescribed salipyrin, ergotinin and hydrastin, with some clearing of urine for a week or so, but recurrence soon followed. Rest in bed, light diet, and various other measures, both local and internal, were provided, ordinarily beneficial in hematurias, but with no enduring relief. The hematuria not only persisted but became more severe, and in December and January reduced his strength considerably; occasional elevation of temperature. As a result of our first conference, in February, suprarenal extract in five-grain doses, four times daily, was given, and when this did not secure definite result, thyroid extract was substituted, with no better effect. It was considered advisable to make a cystoscopic examination with ureter-catheterization. In our first effort to do so I met with the first failure I had encountered in a year and a half of such work—at least, it was a deferred success, as, under more favorable conditions later, success was readily attained. The first effort was made at my office, on February 18; it was found impossible to secure even moderate cocaine anesthesia, although upwards of a dozen one-grain cocaine tablets were inserted by means of my tablet-depositor—a method that usually affords a most satisfactory result. Dr. Witherspoon had already met with this insensitiveness to cocaine on the part of the patient, and the urethra and bladder were so very hyperesthetic that it was soon evident that no instrumentation could be carried out without general anesthesia. The patient went to the hospital, where on March 5, ether, and later, chloroform, were given by Dr. Crandall. The patient was almost immune to both of these agents, so that only partial and unsatisfactory anesthetic effect was obtained; and with the quite active hemorrhage encountered, some difficulty was expected in catheterizing the ureters, but we were agreeably disappointed in this, since both catheters were readily introduced. Before that, however, it was seen that rather active hemorrhage was coming from various parts of the congested bladder membrane, quickly forming a little pool of blood at the bottom of the fundus of the bladder (which was the lowest part of the organ, as the patient was in an inverted dorsal posture.) After passing both catheters up to the kidneys (meeting with no obstruction on either side), all of the urine drained was markedly bloody—first part and last part of each side. Experience has taught that where bleeding occurs from the presence of the catheter in a healthy ureter, it tinges only the first portion, the remainder passing clear or approximately so; but in the present instance all of the urine passed during about thirty minutes was about equally bloody, with possibly a slight difference in favor of the right. Numerous renal and pelvic epithelia were present in each urine, but no evidences of active pus-formation.

For several days before the catheterization there had been elevation of temperature of from one to three degrees; there was improvement in this respect for the four days following the instrumentation, so that he was then allowed to return to his home. On the night following he had a severe chill and fever. Internal antiseptics, such as the salicylates, benzosol and quinine, which had already been in use for a number of days, were pushed freely. On March 9, 10 and 11 there was progressive lessening in the amount of blood in the urine (the improvement beginning, therefore, four days after the catheterization and ureter irrigation); this improvement continued and was accompanied by lowering of the fever and relief from symptoms. On March 14 the urine was comparatively clear, and on the 16th blood corpuscles were discernible only by aid of the microscope; but there was considerable pus and epithelium, and a very large quantity of albumin (1⅛ per cent., Esbach.) This element also soon lessened, and by March 20 only a trace was left, that, too, disappearing in a few weeks. Strength and general health were recuperated, and there has been no recurrence of the trouble in any form in twelve months.

URETER-CATHETERISM AND IRRIGATION IN CHRONIC PYELITIS.

Illustrative of the great advantage of ureter-catheterism in both diagnosis and treatment, the following case is related: It was cited in a previous paper, but I am now able to report that the patient has had no recurrence of his pelvic infection, and has, therefore, been well of it now for almost three years.

CASE X.

Chronic Unilateral Pyelitis and Cystitis; Pelvic Irrigation.

A. J. M., male, aged twenty-eight

years, street-car conductor; referred by Dr. Y. H. Bond, in November, 1901. Following an incompletely cured attack of gonorrhea of two years previously, the patient had noted certain pain and dull aches in the bladder and perineal region, that were growing and becoming a serious interference with the carrying on of his employment. I gave tonic treatment to his prostate, vesicles and bladder, the organs which seemed to me to be at fault, attempting to eliminate a bacterial infection of colon bacilli with internal and local antiseptics, and giving periodic massages and hot rectal siphons. This was continued during November, December and the following January, with unsatisfactory results—only moderate improvement at best. In February, 1902, more because of the rebelliousness of the condition than anything else, I suggested ureteral catheterism in order to learn if the infection reached higher than the bladder. On February 25, at my office, under cocaine anesthesia, I catheterized the right ureter and drained good, clear urine therefrom. On March 26 I again catheterized the same (right) ureter with the same result—clear, healthy urine. On April 14 I catheterized the left ureter and obtained definitely cloudy urine containing pus and actively motile colon bacilli. Before withdrawing the ureter-catheter, but after removal of the cystoscope, I washed out the kidney pelvis with hot 2 per cent. boric acid solution, repeatedly running it in and out by means of funnel and rubber tubing. On May 7 I again catheterized the left ureter, finding the urine much clearer than on the previous occasion, and the boric irrigation was repeated. The same measures were carried out again on May 14, June 2 and 19, each occasion showing marked improvement in the urine in its clearness and freedom from infection, and the various symptoms for the first time had been ameliorated to a satisfactory extent. Each time after catheterism the patient went from my office to his work, which he was enabled to resume with energy and ability. He was discharged from further treatment and has needed nothing of the kind for three years.

CASE XI.

Stricture of the Ureter; Attacks of Ureter Colic; Gradual Successive Dilatations; Relief.

Mrs. H. H——r, housewife, aged twenty-eight. Referred by Dr. H. C. Dalton, January 17, 1904. This patient had suffered more or less from uterine and ovarian pain in connection with menstruation, but had never experienced any urinary affection until about five weeks before I was called by Dr. Dalton. While at her household duties she suddenly felt severe pain in the right lumbo ureteral region, requiring her to go to bed immediately. Her urine became dark and bloody-looking, blood being demonstrated by microscope later by Dr. Fisch. The pain was not projected into the vulvar region, but persisted in the locality of the right lumbar and ureteral regions. Nausea and vomiting ensued, and within two or three weeks the patient was much debilitated and had lost much flesh.

On January 19, with a support improvised from the family couch, we performed double ureter-catheterization, without suffering on the part of the patient, although she had not slept any the previous night because of her anticipation of suffering. The left catheter went without hindrance to the kidney pelvis, and drained excellent urine. The right catheter entered the ureter but could be made to go for an inch or an inch and a half, only with difficulty, and at that point it was definitely stopped in its progress; nor could it be made to go any farther by successive manipulations. Urine that contained both blood and pus was thereupon drained from this ureter,

At first I thought we had to deal with a ureter-calculus, possibly—from the intermittency of the attacks and their resemblance in other respects to the passage and lodgment of such a body; but subsequent study convinced me that this was an error, and the obstruction was from a constriction of the ureter, involving a half or three-quarters of an inch of the canal. By passing a bulb-tipped metal probe I could feel it "jump" through the constricted portion of the canal. Indeed, until the caliber of the canal was enlarged by the use of ureter dilators and sounds, it permitted the passage, to the point mentioned, of only the smallest of ureter-catheters or sounds, and even these did not pass farther than the point of most definite obstruction. There were successive séances of dilatations and irrigations on January 23, 26, 30; February 1, 3, 22, and March 17. At the séance of February 22, I was first able to get a catheter to pass beyond the point of obstruction, and it then went with comparative ease up to the kidney pelvis, although the impingement of the constriction on the catheter was plainly evident, and was shown more pronouncedly when a larger catheter was introduced. With the opening up of the ureteral caliber in this way there was coincident improvement in the patient's feelings and general health. She was able to return home shortly, to regain her lost strength and flesh, and has by this time attained her usual health. No more of the ureter pain appears, although she carries on her regular household duties.

CASE XII.

Stricture of the Ureter; Hydronephrosis of Large Size; Lumbar Nephrotomy and Drainage, with Partial Closure: Demonstration of the Ureter Stricture, and Partial Re establishment of Ureter Calibre by Dilatation; Lumbar Nephrectomy; Recovery.

Mrs. C. W. E——e, housewife, aged twenty-six; under the care of Dr. Everett A. Wood, of Sedalia, and Paul Y. Tupper, St. Louis, by whom I was called into consultation on November 22, 1903.

The patient first observed departure from her usual health in February, 1903, when she noticed gradual enlarging of the abdomen. This was recognized as an accumulation of fluid by Dr. Wood, who tapped and drew off a large quantity of clear fluid. This was later repeated sixteen times, the endeavor being made, meantime, to carry the patient through an existing pregnancy, which was successful. In August, Dr. Tupper opened and found a thin-walled cyst, containing a half gallon of fluid. Adhesions and the friability of the cyst-wall, together with the debilitated condition of the patient, prevented an effort at complete removal at this time.

The patient was drained with rubber tubes thereafter for three months. It was found that every time the tubes were removed and the outer drainage interfered with, colicky pains would occur in the right ureteral region, necessitating the re-introduction of the tubes. On November 22 I was called in. The patient was cystoscoped at the office, Drs. Wood and Tupper present. The left catheter passed readily to the pelvis and drained healthy urine. The right catheter engaged in the ureter opening, but was obstructed at a point above the opening. It was withdrawn several times, but met the same obstruction each time it was re-introduced. Afterwards a ureter-dilator was inserted and the ureter up to the obstructing point was given a good stretching, followed by irrigation.

Eight days later (December 1) the cystoscope was again introduced, and this time the catheter was insinuated past the constriction, which was quite evident, however, to the smaller catheter, but more so to a large one. The catheter went up to the region of the kidney and drained a whitish-looking fluid, containing much pus. I injected irrigating fluid into the catheter and it immediately appeared above, coming out of the rubber tubes which drained the right kidney through the lumbar opening. The same thing was repeated several times, the direct connection between the catheter and the tubes being plainly demonstrable. This also demonstrated the re-establishment of the normal avenue of drainage through the ureteral channel, which was further shown on succeeding days by the increase in the urine discharged through the bladder and the decrease in that discharged by the tubes until there was only a half ounce or so discharged in this way in twenty-four hours, as against six or eight ounces before the ureter dilatation. The patient became impatient at the slowness of this mode of increasing the carrying capacity of her ureter and preferred the removal of the degenerated kidney, which was done by Dr. Tupper a few months later, with an entirely satisfactory result. The patient has recovered her general and local health.

While it is apparent that the removal of the useless, suppurating sack, formerly her right kidney, was the proper procedure in the later stage of development, at the same time the thought presents itself that had the condition of strictured ureter been recognized in its early period and met with dilatation, the possibility of conserving the kidney to further usefulness might have been great. The feasibility of such measures, with respect to both diagnosis and treatment, is no longer to

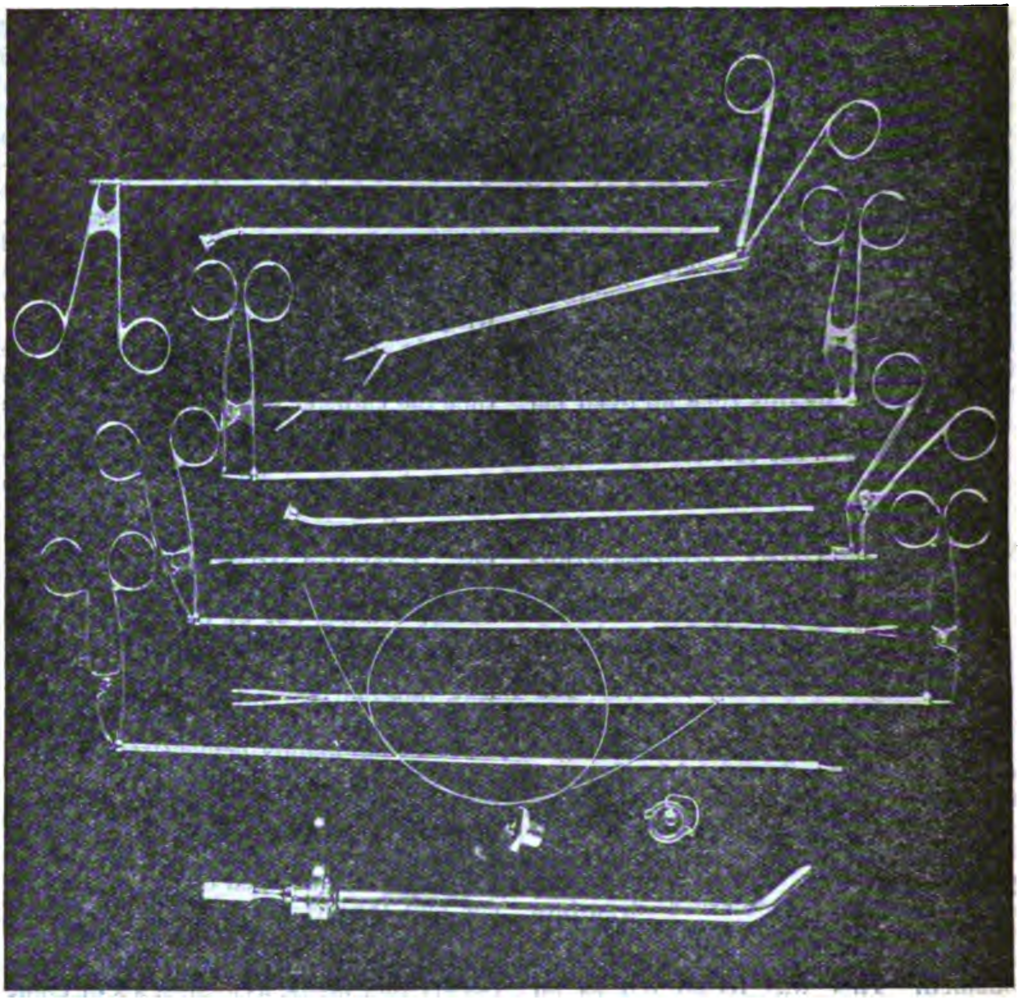


FIG. I.
The Bransford Lewis operative cystoscope and accessories, ureter forceps, dilators, scissors, etc

be doubted, whether in the male or the female subject.

DIFFICULTIES AND DISAPPOINTMENTS.

So many links are necessary to complete the chain of requirements for successful ureteral work that disappointments are not infrequent. The more complicated the instrument and the technique, the greater the chance of interruption or failure; for that reason it has been my constant endeavor to simplify both as much as possible. Lenses and prisms and their accompanying difficulties were eliminated at the outset, were never contemplated in the instrument, which is practically a straight tube, with cold-lamp illumination at the inner end, and arranged to permit of the injection of air through it into the bladder. To add to its simplicity, electric switches and complicated connections have been omitted, and we seldom have an interruption from a break in the electric connection.

Nevertheless, disappointments more or less difficult of removal do occur. Catheterization may be accomplished in a case of active hematuria presenting more or less difficulty on that account, and yet with the cystoscope withdrawn and everything ready for the catheter-drainage from both kidneys, that is intended to explain and clear up the diagnosis, perhaps there is no flow from one or both catheters. They rest well up in the ureters, but a little plug of pus or a clot of blood clogs the eye of the catheter, and our diagnostic chain is broken; chagrin, instead of satisfaction, is our portion. But, happily, this impediment is usually capable of easy correction. The flow is started by either of two maneuvres. A small sterilized syringe is applied to the outer end of the catheter and slight suction is made, clearing the channel; or a few drops of sterile fluid are injected into the catheter, even up to or into the ureter, if necessary, which accomplishes the same purpose, the pressure of the urine from above serving to keep the channel clear thereafter. If pus is so thick that it will not flow through such a catheter, the diagnostic aim may still be fulfilled by strong aspiration through the catheter by means of the syringe, compelling some of the pus to be drawn into the catheter, from which it is again expressed by the syringe after being withdrawn from the ureter and cystoscope. This has been clearly demonstrated in two cases that have come under my observation; one in which I did double ureter-catheterization on a patient for Dr. Bryson, a few months before his death, in which a good flow of fairly good urine came from one catheter, while none came from the other (the left). After obtaining the desired quantity from the side that was flowing and failing by syringe-aspiration to get a flow from the other, both catheters were withdrawn, when it was found that ten or fifteen drops of thick, yellow pus were contained in the catheter that did not flow; it was forced out of the catheter into a glass with the same syringe that had done the aspirating. The pus in this case was too thick to flow freely, but it was, nevertheless, demonstrated in its thick state—something that would have been impossible by segregation methods.

In a previous paper (*op. cit.*, page 9) I have alluded to a similar case as follows:

CASE XIII.

Pyonephrosis and Perirenal Abscess.

Male, aged thirty-nine years, had suffered many years from pain in the back and other symptoms of chronic urinary affection. Because of this and of purulent urine present the Harris segregator was used, giving comparatively clear urine from the right side, but cloudy urine from the left. It was considered from this by the surgeons who made the test that there was pyelitis present. Later I was asked to make ureter-catheterism. I inserted the catheter into the left ureter, but it would go in only a part of the way; it was withdrawn and reinserted several times before it finally was pushed up about two inches into the ureter. Even then it did not drain immediately, so after waiting ten minutes or so I applied aspiration to the outer end of the catheter and by strong pumping got out one dram of pure pus. Instead, then, of there being simply a pyelitis, there was renal abscess, with an imperative demand for operative interference. On operating through the left lumbar region I found the kidney dilated with over a pint of pus and a stone in the renal pelvis. The segregator could not possibly have given the results thus obtained by catheterism and the strong aspiration. The thick pus was not draining from the ureter and could not have gotten into the segregator from the ureter, and hence could not have gotten into the segregator tube.

That "there's many a slip 'twixt the cup and the lip" was very aggravatingly illustrated in a case referred to me by Dr. F. Neuhoff, in June, 1903.

CASE XIV.

G. W. G———r, male, aged forty, railroader, married. History of nine years' gradual development of parenchymatous nephritis to a state of chronic uremia and several attacks of coma during the period of two months before I was called. The patient was semi-delirious, temperature high, pulse elevated far above normal, urine and feces often passed unconsciously into the bed. Conditions were apparently hopeless, but with a view to a possible renal decapsulation, I wished to make an effort to drain the kidneys respectively. After much difficulty, due to his delirious strainings and contortions, I did succeed in introducing the catheters, just as the patient showed signs of heart weakness and depression, such as he had exhibited on previous occasions. He was quickly returned to his room and bed, the assistants being cautioned to take good care of the two catheters left in the ureters. I arrived in the room a few minutes later and on examining found that both catheters had been pulled out and were lying in

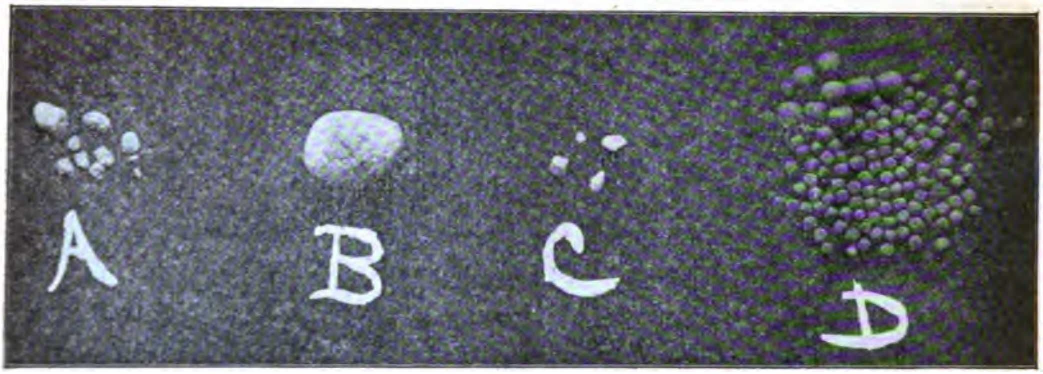
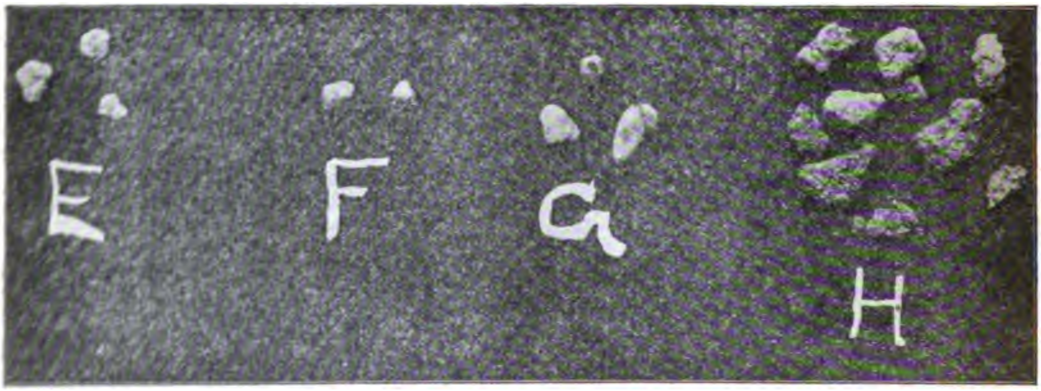


Fig. II.

A, Ureter-calculi passed after catheterization and irrigation of ureter (Case 1).
B, Stone removed from right kidney (Case I).
C, Particles of stone passed from left ureter following catheterization and irrigation (Case. I)I.
D, Numerous shot-like calculi passed from right ureter during one morning (female patient).
E, Ureter-calculi passed without manipulation after prolonged colic.
F, Ureter calculi passed at office without pain shortly before.
G, Ureter-calculi passed after ureter colic.
H, Stones crushed and removed through author's operative cystoscope.



the bed clothes. The assistants had forgotten all about them in their efforts at restraining and caring for the patient. The endeavor was not repeated. The patient died about three weeks later.

Difficulties connected with the execution of catheterism are, of course, gradually lessened with practice and repetition of the procedure; that is true generally, and also where it is repeated on the same individual. Idiosyncrasies and anatomical and physiological peculiarities are recognized on more intimate acquaintance, and dealt with more easily. There is surprisingly wide variance in the position and location of ureter openings into the bladders of different persons. Sometimes they are both low down, or both are high, or one is high and the other is low; and they vary equally as much with respect to their distance from the median line of the bladder, both in different cases and in the same individual. The peristaltic movements of the bladder walls while under observation make variations that should be taken into consideration. These facts, by the way, discount to a certain extent the certainty and accuracy of results in the use segregators. One cannot *see* that he has the watershed exactly between the two ureter openings, and cannot *see* that there is no mixing of the two urines from the respective kidneys. One of the most frequent sources of difficulty in catheterizing easily comes from insufficient cocainization, air and the instrument in the bladder then causing bladder contractions and resistance that put easy manipulations out of the question. Before I learned this I tried to catheterize a patient named Lister a number of times before I succeeded, but after that I catheterized him a number of times without the slightest dufficulty. In contracting forcibly, the bladder is thrown into folds and wrinkles that hide the openings from view, and the pressure from within sends moisture against the window of the cystoscope, as well as lessening the working space and cramping manipulations. It is economy of time and effort, and but just to the patient under such circumstances, to withdraw the cystoscope and put in another tablet or two of cocaine, after aspirating the fluid that has collected and will dilute the cocaine if left there. Then on introducing the cystoscope, the difference is remarkable; instead of having a cramped, jumbled-up field of vision, the bladder is dilated widely and comfortably and all maneuvreing is easy.

Rapid bleeding into a bladder sometimes gives more trouble from its tendency to dilute the cocaine and defeat anesthesia than from clouding the field. I have previously shown how the field may be kept clear of blood by putting into effect two maneuvres: Affording marked pelvic elevation by posture, so that the accumulating blood gravitates toward the fundus of the bladder; and while searching for the ureter-opening, one catheter is sent two or three inches beyond the end of the cystoscope and dropped into the pool of blood in the fundus while an assistant keeps the pool from growing large by pumping on the outer end of the catheter with a syringe. In the case of a very sensitive bladder, such rapid bleeding might dilute the cocaine to a degree that would prevent an anesthetic effect, whereupon general anesthesia might become a necessity. But, on the other hand, where sensitiveness is not acute and resistance of the bladder not great, even the cocaine is not necessary; adept manipulation gets the catheter into the ureter with no more discomfort than is incident to sounding for stone or similar instrumentation.

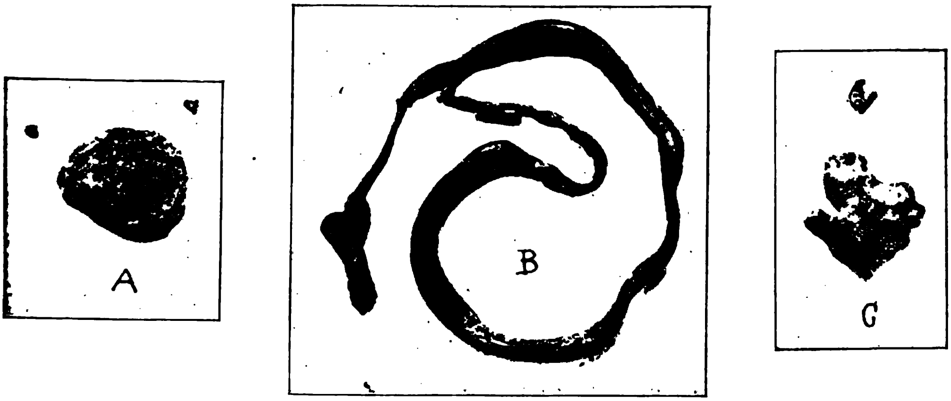


FIG. III.

A, Stone removed from bladder of Case I.
B, Blood-cast of left ureter (Case VI).
C, Kidney-stones removed by nephrolithotomy after proof by ureter-catheterization and X-ray photograph.

Illustrative of some of the difficulties met with in regard to patients themselves, aside from the general difficulties connected with this work, the following case may be related.

CASE XV.

John W——n, male, aged twenty-two, American, unmarried, no occupation for several years on account of ill health. Was referred to me July 2, 1903, by Drs. Dorsett, Roland Hill and William Porter. About three years previously (some time in 1900) he had first noted the pain from which he had suffered ever since. It began gradually and was felt as a heavy aching in the right ilio-lumbar region. The urine had shown much sediment and had changed in color from normal to a dark brown or red color. Frequency of urination was excessive, both day and night—

every hour in the daytime and six to seven times at night. He was under the care of Dr. Bryson from October to February, 1902–3, and for a time considerable relief appeared to have been given, but it was of short endurance, and the pain had never disappeared at any time. The patient impressed one with being tuberculous, both because of the history given and his meager aspect; and he said that one sister had died of tuberculosis; one brother had a lump in the testicle for several years. Repeated examinations were made for tubercle bacilli in the urine, but none were found, and Dr. Gradwohl made inoculations of the urine sediment into guinea-pigs, but with negative results. The vesicles and prostate seemed to be uninvolved. In order to localize the inflammatory process, I sought to catheterize the ureters on July 10, 1903. The urinary tract was one of the most sensitive that I have ever seen; nothing could be introduced into the urethra—not even a soft rubber catheter or a mild solution—without preliminury cocainization, and cocaine but lessened the severity of the pain, without preventing it altogether. In the endeavor to catheterize, however, it was found next to impossible to even introduce the cystoscope into the bladder, on account of the extreme suffering, notwithstanding the use of a number of cocaine tablets applied directly against the vesical neck. The parts could not be anesthetized to any degree at all, and the bladder contractions, contortions and resistance met each effort to distend the bladder with air for working space. Nevertheless, by quick action at one time a ureter-catheter was inserted into the left ureter, and drained one dram of fairly good urine, containing pus and blood corpuscles. Efforts at catheterizing the right ureter were postponed until July 10, when more effective anesthesia was aimed at by the combined use of a morphine suppository, antipyrin solution injected into the bladder, and tablets of cocaine. Notwithstanding these, anesthesia was not attained to any satisfactory degree whatever, and it was apparent that general anesthesia would be necessary to secure the desired relaxation of the bladder. This was tried on September 2, Dr. L. J. Boehm administering at first chloroform, later ether, but with no more satisfaction than had been attained from the use of local anesthetics. The injection of either water or air in quantity sufficient to secure working space gave rise to squirming and bladder contractions that immediately defeated the endeavor. The right ureter-opening was never seen, and it is not known positively that there *was* a right ureter, although there was presumptive evidence of there being one, together with a right kidney, in the pain and urinary symptoms referred to that side.

Exploratory lumbotomy on the right side was next proposed, though not accepted, the patient fearing the effect of a cutting operation, and desiring to get well by medicinal means.

My failure to catheterize the right ureter in this case was the first definite and complete failure I had met with in that endeavor, after bringing my instrument to its present state of efficiency, and the failure in this instance resulted from the unfortunate insusceptibility to anesthetics, such as is met with in certain rare instances;it would have applied, also, to other forms of intra-vesical instrumentation or the use of other cystoscopes.

The patient was lost sight of shortly afterwards. I do not yet know whether he had a right ureter.

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MEDICAL ASPECTS OF GASTRO-DUODENAL ULCERS.

BY LOUIS A. LEVISON, M.D.,
TOLEDO, O.

It has only been during the last few years, comparatively speaking, that gastro-duodenal ulcerations have passed from the exclusive hands of the internist and become a subject having both medical and surgical aspects. As in most other fields where the surgeon has invaded the domains of internal medicine, there is still considerable discussion as to the line of demarcation between the proper spheres of activity of the surgeon and the internist. None will deny that many of the complications of gastric or duodenal ulcers, such as perforation or pyloric stenosis, are purely surgical affections; but that the surgeon has established his right to treat uncomplicated cases of ulceration is still an active issue with certain purely medical men. The matter should be decided—if, indeed, an absolute decision is possible—with only one thing in mind, and that is what is best for the patient.

At the present time the subject of gastro-duodenal ulcerations in current medical literature is riding upon a high wave of popularity, similar, as has been pointed out, to that of appendicitis a few years ago. It is stated by Andrews that in its brief history gastric ulcers have increased 200 per cent. This increase is, in all probability, not due to any real increase in the disease, but rather to the better understanding of gastric ulcers and the better methods of diagnosis of recent years. Although far-reaching advances have been made in the pathology, diagnosis and treatment of gastric ulcers, none of these chapters have been finished. There is no doubt that many cases of gastric or duodenal ulcers are never diagnosed or ever suspected. In one series of 11,888 autopsies, there were found 1.04 per cent. of open ulcers and 3.01 per cent. of scars. Certainly no such proportions of patients have a diagnosis of gastro-duodenal ulceration made ante-mortem.

Some of these cases are latent, presenting no symptoms or signs whatsoever. In these cases the diagnosis is impossible. Most cases, however, present symptoms, although often differing widely from the classical picture of gastric or duodenal ulcers. It is stated by Stewart that if we rely upon the classical symptoms we will miss the early diagnosis in 60 per cent. of all cases.

Of the various phases of the subject of gastro-duodenal ulcers, none have elicited more inquiry or discussion than the etiology. The various theories which investigators have put forth from time to time show, by very virtue of their divergence, how unsettled the matter really is. Some of the older theories have fallen into disrepute, some of the modern ones have been discredited, and at best none explain more than a part of the cases. No one factor lies at the bottom of all cases. Simple mention of some of the theories show how extended is the list, which includes hyperacidity, burns, changes in the bile, compression, bacterial infection, injuries, anemia, menstrual disorders, atheroma, embolism, thrombosis, hemoglobinemia, chlorosis, atony, stagnation from pyloric stenosis, lesions in the vagi, venous congestion at the pylorus, obstruction of portal vein, injury to nervous system, deficient mucus-secretion, etc. Of these I shall pause at two.

Research by Fütterer and by Silberman shows that typical chronic gastric ulcerations may be produced if the hemoglobin of the blood be destroyed by injections of pyrogallic acid or hemoglobin, whereas ulcerations produced by various methods without lowering the hemoglobin percentage rapidly heal and do not become chronic. The importance of these experiments from a therapeutic standpoint is touched upon at another point. The second theory is of recent origin and is based upon work done by Saitta and Yzeren. They, working independently, severed he pneumogastric nerves below the diaphragm, producing a fairly continuous tonic contraction of the stomach, resulting in the production of ulcers after the administration of weak solutions of HCl. Controls made with animals with intact vagi showed no changes. It is possible that we may find some pathological condition of the vagi to be an important etiological factor in the production of gastric ulcers.

The various forms of gastric ulcers have been well classified by Fenwick in his work upon "Ulcers of the Stomach and Duodennm." He shows that chronic ulcers are not simply the later stages of the acute forms. He states that acute ulcers are most common between the years fifteen and twenty five, and are ten times more common in females than in males. Hemorrhage occurs as a first symptom in 75 per cent. of all cases and perforation as a first symptom in 3 per cent. Acute ulcers are usually formed upon the lesser curve and are multiple in 54 per cent. Upon the other hand, chronic ulcers rarely occur before the age of thirty, and usually in males. Hemorrhage occurs after the first year, never as the first symptom. Immediately fatal hemorrhage occurs in about 3 per cent. and perforation in 7 per cent. Chronic ulcers are fouud on the posterior wall of the pylorus in 76 per cent., and are solitary in 87 per cent.

The diagnosis of gastric or duodenal

ulcers does not offer a great deal of difficulty when all the classical symptoms are present. But it is rare for all of these to be present. In fact, it is the exception for the chronic form of gastric ulcer to be diagnosed in the early stages. The classical symptoms and their bearing upon the diagnosis are well known. Pain after eating, tenderness over the epigastrium, vomiting, hematemesis and hyper-chlorhydria are the most important diagnostic points. Boas believes minute amounts of blood in the stomach contents or stools to be pathognomonic of ulcerative lesions in the stomach or duodenum, after excluding blood from extraneous sources as hemorrhoids, food, etc. He has found blood in the stools in a large number of cases before characteristic physical signs or symptoms appeared. The symptom is especially valuable in conjunction with the other signs. By chemical tests, particularly with guaiacum, very minute amounts of blood can easily be detected in the stools. Boas contends that the blood will invariably disappear from the stools if the patient is kept in bed upon a milk diet, thus differing from gastric cancer. When the ulcer has cicatrized the blood will disappear, and this is a better indication of the time to stop treatment than the disappearance of symptoms. The value of hyperchlorhydria as a diagnostic sign has been lessened in recent years, but, in conjunction with the other signs, it is always suggestive. In over 1,000 cases Ewald found hyperacidity in only 34.1 per cent., and Howard found hyperchlorhydria present in only 17.6 per cent. of all the Johns Hopkins cases up to the present time. The fact that hyperchlorhydria of the gastric contents is very common in gall-stones detracts from its value in gastric ulcer. Riedel believes that 97 per cent. of gastralgic cases are due to gall-stones, a figure which seems rather high, and that many of the so-called cures of ulcers were not ulcers at all.

In the treatment of gastro-duodenal ulcers I attach much importance to the anatomical classification of Fenwick. It is true that all cases do not fall in either of these two classes, but as a rule they can be so classified. Acute ulcers usually respond to a somewhat different form of treatment than the chronic form. In every case an effort should be made to determine the etiological factor. If the cause can be discovered, the most important part of the treatment consists in removing that condition. The blood should invariably be examined, especially in the acute cases, as anemia is often present, which may have a direct bearing upon the ulcerative lesion. The anemia in these acute cases is not, as a rule, dependent upon the hematemesis, but upon some primary factor. In view of the experiments of Fütterer and others, showing that artificially-produced ulcers in animals would not heal, if the animals were kept anemic, I consider the correction of the anemic condition to be one of the most essential parts of the treatment. Prolonged restraint in bed, rectal feeding or a milk diet cannot act favorably upon the anemic condition. At the Infirmary Hospital the plan of treatment in these acute cases is first to remedy the anemic condition, endeavoring to build up the general condition in every way. Iron in the form of the chloride has been found valuable in these cases, as it seems to have a favorable effect in promoting cicatrization of the ulcer, as well as increasing the hemoglobin percentage. The neutral preparation should be secured, as the variety ordinarily sold by the druggist contains a considerable proportion of HCl or other mineral acid, which can easily be demonstrated by applying Günsberg's or other acid test. While the anemia is being corrected the patient is kept sufficiently nourished by soft articles of food, meanwhile relieving any symptoms that may appear by appropriate medication. After the hemoglobin percentage has been demonstrated to approach normal, the stomach is put at rest by rectal feeding, supplemented by a cautiously administered milk diet. The patient is kept in bed for three or four weeks, gradually adding more solid articles of food. As shown by Boas, the disappearance of occult quantities of blood from the stools offers a better criterion when to stop treatment than the disappearance of symptoms. The acute form of ulcers is more amenable to medical treatment than the chronic variety, and will furnish the largest percentage of cures to the purely medical man. The surgeon's sphere of activity in these acute cases is practically limited to perforation, as nearly all cases respond to proper medical treatment.

The chronic form of ulcer is the one which in many cases is disappointing to the internist. Anemia in these cases is more apt to be due to the repeated and serious attacks of the hematemesis than to some primary factor. It is in this class of cases that confinement in bed, rectal feeding and milk diet are indicated for prolonged periods of time. These chronic cases have a marked tendency to relapse after periods of apparent recovery. The ground gained by weeks or months of treatment may be lost by a too rapid return to the usual mode of living. It is very difficult, if not impossible, to treat these cases in their homes. The strict regimen necessary is not adhered to, and months of half-carried-out treatment may tax the patience of the physician and exhaust the strength of the patient. There are also cases which resist all forms of treatment, even when rigidly carried out, either relapsing or persisting. Here surgical intervention should be suggested. It should not be forgotten that gastro-enterostomy for non-malignant diseases of the stomach is sometimes followed by peptic ulcers in the jejunum. Attention to the frequency of this occurrence has been noticed by Tiegel, and it would seem that post-operative medical treatment in the form of a strict diet and an alkaline medication is almost as advisable after operation as before, at least for a time. Further observation of surgical cases for the occurrence of these jejunal ulcers is necessary.

Severe attacks of hematemesis which occur with the patient in bed should not be temporized with. Owing to the fibrous tissue which encircles the arteries and prevents contraction, these attacks of bleeding are too often fatal, and such a termination should not be chanced, in view of the good results obtained by operative treatment.

CONCLUSIONS.

1. Gastro-duodenal ulcerations are much more commonly diagnosed now than a few years ago.

2. A larger percentage of ulcers and scars are found post-mortem than ante-mortem.

3. The etiology is still an unsettled matter.

4. Chronic ulcers are not simply a late stage of the acute forms, but probably have a different pathogenesis.

5. Vomiting, pain and hematemesis are the most common symptoms.

6. The value of hyperchlorhydria as a diagnoitic sign has been lessened in recent years.

7. The correction of the anemia is an essential part of the treatment of the acute cases.

8. Surgical intervention should follow a fair trial of medical methods.

9. Surgical intervention is sometimes associated with serious after-effects, as the occurrence of peptic ulcers in the jejunum.

BIBLIOGRAPHY.

1. Clinical Review, July, 1903.

2. FÜTTERER: "Treatment of the Chronic Round Ulcer of the Stomach," Journal American Medical Association, No. 2, Vol. xxxviii.

3. SILBERMANN: Deutsche med. Wochenschrift, No. 29, 1886, p. 487.

4. BOAS: Deutsche med. Wochenschrift, No. 46, xxix.

5. EWALD: "Diseases of the Stomach.

6. HOWARD: "A Study of Ulcer of the Stomach and Duodenum," American Journal Med. Sciences, No. 6, Vol. cxxviii.

7. KAUFMAN: American Medicine, November 14, 1903.

8. "Mitteilungen a. d. Grenzgebieten der Med. und Chir.," Vol. xiii, Nos. 5 and 6, 1904.

Saline Infusion in Puerperal Infection.

Jaworski (*Centralblatt f. Gyn.*) says saline infusion is a treatment which is gaining ground rapidly, and he presents data showing the favorable action of the infusion in cases of puerperal infection. In order to get an effectual improvement the patient's kidneys and glands must be in working order, and if they fail to act the saline infusion will be of no benefit. In the chronic forms of puerperal infection saline infusion is especially valuable on account of its stimulating, cleansing and eliminating action. M. A. T.

Relaxation of the Abdominal Walls After Pregnancy.

Hermabessiene (*Centralbl. f. Gyn.*) says that the relaxation of the abdominal walls after pregnancy is due to the loss of elasticity in the abdominal muscles. As a rule, one set and not all muscles are affected. The treatment advised is massage, gymnastics, electricity and hydrotherapy. Surgical intervention is not warranted unless a ventral hernia complicate. M. A. T.

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

Meeting of January 30, 1905.

THE PRESIDENT, S. P. KRAMER, M.D., IN THE CHAIR.

SAMUEL IGLAUER, M.D., SECRETARY.

Cases Presented.

The following cases were presented:

1. A case of folliculitis ex ulcerans, presented by Dr. M. DREYFOOS.

2. DR. M. HEIDINGSFELD presented a case of lupus successfully treated with the mercury lamp.

3. DR. W. D. HAINES showed a patient upon whom he had performed an operation for fractured patella, successfully treated by his subdermal kangaroo tendon suture.

DR. E. SHIELDS showed some new preparations of iodine and mercury.

DR. RUFUS B. HALL presented a specimen of primary carcinoma uteri.

The following cases were reported:

Supraorbital Neuralgia.

DR. J. A. THOMPSON: The following case report of symptoms produced by obstruction of the natural outlets of the ethmoid cells and antrum is given chiefly in the words of the patient, a practicing physician:

V. M., aged forty-two, weight 198 pounds. Never had syphilis.

"In November, 1903, while driving in a quarter of the city where surface drainage prevails, I was caught in a dust storm; my eyes became infected and I was under an oculist's care for a month or more for an attack of conjunctivitis. During this time and subsequently I suffered from severe headache and pain in the right eye. I was fitted with glasses, which gave no relief. The pain was supraorbital and associated with a sensation of increased intra-ocular tension in the right eye, although I was assured the latter condition did not exist. The upper lid was persistently edematous, giving the appearance of recession of the eyeball. Pain was not constant, but paroxysmal, and no day was free from suffering.

"On advice of my oculist I consulted a general practitioner, who sent me through the gauntlet of veratria, arsenic, the coal-tar derivatives, etc., for a persistent neuralgia. After a couple of months of antineuralgic therapeutics, with no relief in sight, I gave up in disgust and decided, as I could not help myself, to grin and bear it.

"Altogether this state of affairs continued for one year, when I consulted another oculist, who found I had a divergent squint due to pressure paralysis, as he suspected, and on his suggestion I had an examination of the upper air-passages made in hope of locating the cause of the circulatory disturbance. This was followed by the happiest results, the treatment instituted being followed by immediate and permanent relief. The ocular paralysis has recovered and the edema of the lid has entirely disappeared."

When the doctor called for examination the facial expression was that of a patient who had suffered long and severely. He was restless and nervous from the chronic pain. The right eye lid was markedly swollen and the eyeball divergent. He had marked and increasing double vision. There was intense supra-orbital pain and toothache. Examination of the nose showed no very marked inflammation or swelling.

After spraying the nostril with adrenalin and making a local application of cocaine, I attempted to probe the normal opening of the maxillary antrum and of the ethmoid cells. Entrance to these was blocked by firm adhesions between the middle turbinated body and the outer wall of the nose. Arrangements were at once made for operation, and two days later, under cocaine anesthesia, the very firm adhesions were cut and a portion of the anterior end of the middle turbinate was removed to prevent the re-forming of the adhesions. With this obstruction out of the way it was easy to pass a probe into the infundibulum and into the antral orifice. The effect of this operation was immediate relief of the headache from which the patient was suffering when he came into the office. No pus was found in either cavity.

Convalescence was easy and rapid, interruped only by occasional attacks of toothache and headache when the doctor neglected his treatment and allowed scabs to form over the wound. The final result was, as stated by himself, complete restoration of vision and relief from headache and toothache.

There is one uncommon feature in this case and several common ones that make it worthy of report. It is a reasonable deduction from the history that the nose was infected by the street dust at the same time the eyes were injured. The eye symptoms were so much more notable at the time that no attention was paid the nose. The adhesive inflammation which bound the middle turbinate to the outer wall was undoubtedly the result of this infection. The unusual feature in this case was that when the accessory sinuses were opened no pus was found in them. Usually where there has been a closure there is secondary infection and suppuration.

It might be thought an uncommon feature of this condition that an unusually able and successful practitioner of medicine should suffer a year from headache and disorders of vision without having the nose examined. It might be considered more uncommon for a consultant to forget the accessory sinuses as a cause of supra-orbital neuralgia. To those who have given special attention to this subject this oversight is not at all uncommon. I have reported elsewhere a case of supra-orbital neuralgia of twenty-seven years' duration cured by a very simple intra-nasal operation. The cause of the neuralgia had not been suspected for all those years. The patient was the wife of a doctor.

It might be thought, also, that the condition of adhesive inflammation here in the nose was an uncommon one. The fact that I have three other cases besides the doctor's under treatment at the present time would show that the condition is common, and a common cause of chronic headaches. Two of the three cases mentioned are convalescent; the third, operated last Saturday, is too recent to report what will be the result.

The conclusion to be drawn from this case, and from many that proceded it, is that in all patients with supra-orbital neuralgia a very thorough and exact examination of the accessory sinuses should be made before resorting to treatment.

Specimen of Uterine Fibroid—Typhoid After Operation.

Dr. Joseph A. Hall: Miss Nora McC., aged thirty nine years, serving-maid, came under my care September 26, 1904, with a history of a tumor in the abdomen, which she said she had first noticed three years ago, and for which she had been taking electrical treatment twice and three times weekly since that time. Bimanual examination revealed a tumor about the size of a peck measure involving the uterus, and filling the entire pelvis and rising some four inches above its brim.

Upon questioning the patient I was able to bring out the facts that the presence of the tumor had never given rise to any symptoms we would expect to find in a fibroid the size of this. There had been no hemorrhage at any of her periods or between them. There had been a sense of fulness in the abdomen at times. The abdomen had become so enlarged that it had caused comment among her workmates in a hotel in this city. Upon two occasions at distant intervals after her menstrual period she had been compelled to go to bed for twenty-four hours with a severe pain along the left sciatic nerve. This was relieved by quiet and the use of a hot-water bottle. Operation was advised and eagerly accepted, I feel more on account of the remarks of her mates than for relief of the few symptoms present. She was operated upon and this tumor removed on October 21. On the afternoon of the day of the operation her temperature was 102.6°, pulse 100. The following morning the temperature was 102°, pulse 100. The evening of this day the temperature was 103°, pulse 100. Her bowels had moved freely during the day without any medicinal effort on our part. She seemed bright and complained only of a headache and some slight pain in the right iliac fossa. During the second night she had a severe attack of epistaxis; this, coupled with the other symptoms, rather relieved my mind. A Widal was immediately ordered and made; the result was positive. She went through a typical attack of typhoid fever, recovered and went to her home on December 20.

The interesting features of this case are the entire absence of any suppuration of any kind, and that she should develop all the prominent symptoms of typhoid immediately after operation. She entered the hospital and was prepared in the usual way. Typhoid fever was not suspected until after the operation, but I am convinced that typhoid was present when she entered the hospital. A letter received from her on the 27th says she is feeling well and strong and has gained seventeen pounds.

Gastrojejunostomy.

Dr. W. D. Haines: The patient we present this evening has suffered, at times, for the past two years of pain, nausea and vomiting after meals. He has had intervals of freedom from these symptoms while undergoing treatment and in the absence of treatment. However, he has lost weight and continues to suffer, despite the employment of various methods of treatment, including diet, rest, lavage and medication. He was seen in consultation with his physician, Dr. Stewart Hagen, last November, at which time he was suffering of a dull, boring pain referred to the right of the xiphoid appendix, and indicated by placing his fingertip upon the abdomen. The pain was more or less constant at this time, and markedly increased after taking food. He was troubled by "bloating" for several hours after eating, which was sometimes, not often, followed by vomiting, which gave relief. No blood has ever been discovered in the vomitus or stool. He gives a distinct history of three acute exacerbations of his symptoms, the present attack lasting ten weeks in spite of constant rest, regulation of diet, lavage and medication.

The patient is twenty-eight years old. His avocation entails the use of a brace and bit. The brace, when used, was placed against the "pit" of the stomach in order to gain precision and pressure in directing the bit, and to this pressure he attibutes his present illness. He is sallow, slightly icteric, emaciated, nervous, sleepless and discouraged. The pulse is rapid, weak, irregular. The breathing is shallow, labored. Urine clear, specific gravity 1022, contains an excess of chlorides, no albumin, sugar or casts. The stools are clay-colored. The abdomen is tympanitic, tender in the right upper quadrant, and painful to touch near the lower sternal extremity. A diagnosis of gastric ulcer had been made by one of our leading internists, which opinion was confirmed by the reporter, with the provisional addition of obstruction of the gall-ducts by stone or adhesions.

Operation was advised, which was readily accepted. On opening the abdomen the transverse colon and stomach were found slightly lower than usual. The stomach was empty, and but slight if any dilatation could be determined. The pylorus was small, one inch in diameter, and gave the sensation which a rope would impart if surrounded by thin animal tissue. The gall-bladder was greatly distended and adherent throughout its median surface to the hepatic flexure of the colon; the ducts were free from stone. On freeing the bladder from its position, adhesions, extending from the gastro-hepatic omentum, were encountered, which were encroaching upon the ducts, retarding the flow of bile. With all adhesions broken the gall-bladder became compressible, demonstrating the patulousness of the cystic and common ducts. The bladder was not opened. A gastro-jejunostomy completed the operation. The button passed on the twenty-third day. The patient is symptomatically cured and has gained fifteen pounds in weight.

One would be very reckless indeed who would advise operation in every instance for gastric ulcer. Our medical friends tell us 50 per cent. of these cases recover under proper medicinal treatment. This statement is especially made with reference to young chlorotic girls. It is the ulcer that resists treatment which becomes the legal heritage of the surgeon; and while relief, we regret to confess, does not always follow operation, recurrence, hemorrhage, rupture and death having been recorded after operation (Leube, Hauser and others), still the percentage of recoveries after operation is so large that encourgement of a very assuring nature is offered by it to patient and operator.

The one salient feature which at present engages the attention is the relation which ulcer bears to cancer. Hauser thinks 6 per cent. of the cases are followed by malignant growth. Doyen and Rodman place the figures much higher, while Mayo found ulcer histories in 60 per cent. of 157 operations for cancer. The frequency with which the speaker has found cicatrices and the rarity of malignant changes in a goodly number of autopsies would lead him to place the percentage very low. Duodenal ulcer is associated with stomach ulcer in 80 per cent. of all cases. Moynihan finds it an almost constant concomitant of gastric ulcer.

Cases of Hemophilia.

Dr. Robert Sattler: Several weeks ago several large and small retention cysts of the Meibomian glands of the upper and lower lids were removed after the usual manner in a young man who belonged to a family of "bleeders." His brother, then a lad of fourteen, had about ten years ago furnished me with one of the most startling happenings of my surgical experience. It was for this reason that the simple surgical interference which was necessary to bring about the disappearance of the growing and unsightly cysts of the eyelids was undertaken, with no little concern, for I recalled to mind also that he was among the members of his family who had shown a tendency to excessive hemorrhage after slight injuries and the extraction of teeth. Years ago, in his brother's case, after enucleation of a hopelessly injured eye, which had become a menace to the uninjured one, a most furious and uncontrollable hemorrhage, lasting and recurring with greater violence for days, came about five or six hours after the operation, which had been devoid of noteworthy features.

Five hours after the operation, the entire contents of the orbit had been extruded. The tissues had been completely inverted and densely infiltrated with blood and transformed into a shapeless mass about the size of two closed fists, which protruded through the enormously stretched palpebral fissure. Inspite of pressure an repeated cleaning of clots, so far as this was possible, of what remained of the cavity of the orbit and plugging with tampons dipped in styptic solutions, uninterrupted applications of pressure and ice, internal use of ergot, digital compression of the common carotid and other measures which were suggested by those who saw the case with me, the hemorrhage persisted so that ligation of the common carotid had been decided upon when the hemorrhage, after almost constant seeping, more or less profuse, ceased after ten days. The patient's general condition was bad and the appearance of the eyelids suggested their partial or complete sphacelation in consequence of the constant and great pressure of the protruding hematoma. After ten or twelve weeks, hemorrhage recurring after the slightest exertion, and often, also, spontaneously, there came about a slow recession of the protruded contents of the orbit, and he finally recovered, with sphacelation of the lid border of the lower lid, partial destruction of the border of the upper lid and great contraction of the orbital cavity.

In the present case, remembering this uncommon experience and knowing that he also had this same tendency, only a small incision was made to gain access to the distended glands and introduce a curette. In the upper lid this was accomplished without difficulty, but all have remained indurated and have shown from time to time variations in their dimensions, due to hemorrhagic extravasations. One, about the size of a bean, in the lower lid was opened, the hemorrhage was profuse but was controlled by pressure. On the following day, however, it was evident that profuse hemorrhage into the cyst cavity had taken place, and this has been repeated at frequent intervals, so that at present, three weeks after the curettage of the cyst, its dimensions are as large or larger than the original tumor. Reference is here made to this because it resembles what happens after apparently only a trifling injury to the joints in some subjects belonging to the hemophilia group. In such cases a trifling blow or a more severe injury may be followed for weeks or a longer period by recurring hemorrhagic extravasations, resembling in every particular an acute or subacute synovitis. This young man inherits his failing from his mother's side in common with one brother and one sister, the family comprising eight members.

Chronic Myeloid Leukemia.

Dr. H. G. Marxmiller: The case I have to present this evening was reported to the Kenton-Campbell Medical Association in September, 1903, and, being one of chronic myeloid leukemia, I thought it would be of interest. In May of 1903, when I first saw the patient, the following history was obtained:

Mr. G——, aged forty-three, height five feet eight inches and weight on June 1, 1903, 143 pounds, present weight 150 pounds, married and has several children living, one having died at the age of two years of tubercular meningitis. Patient is a farmer by occupation, gives no history of syphilis, malaria or family history of tuberculosis. He dates the beginning of his present illness back to the fall of 1901 — the duration of the disease, therefore, up to the present time being three and a half years. He attributes its onset to exposure to cold, and says the course of the same was slow and gradual. There was a gradually increasing weakness, so much so that he was unable to perform any kind of manual labor without extreme fatigue and shortness of breath.

An examination of patient in June, 1903, presented a marked anemic appearance bordering on pallor, with edema under the lower lids; the conjunctiva was blanched and colorless. The mouth presented ulceration of the gums, which bled freely. There was, also, hemorrhage from the stomach, the vomit containing epithelial cells, together with blood, bile, mucus and free acid, the urine having a specific gravity of 1020, reaction slightly acid, no albumin or sugar, passes three pints in twenty-four hours. There is a slight increase of urea, due to an increase in metabolism. Patient had a slight cough; examination of sputum shows no tubercle bacilli, the temperature varying from 99° to 100°, being highest towards evening, the pulse ranging from 80 to 110, being increased in frequency upon the slightest exertion. He complains of shortness of breath, accompanied by a faintness and weakness, the respirations varying from 18 to 25 per minute. The heart is not enlarged, but there is a distinct systolic hemic murmur, heard with greatest intensity at the apex, and also a venous hum heard in the neck. There have occurred at varying intervals hemorrhagic extravasations into the subcutaneous tissue of the thigh and anterior surfaces of the legs. In July, 1903, there appeared distinct tumorous masses upon the right thigh, presenting an oval appearance, having a greenish color and hard and painful to the touch. The liver is only slightly enlarged, his bowels regular, appetite good and he sleeps well. By palpation and percussion we can easily outline an enormously enlarged spleen, reaching nearly to the pubes below and extending a half-inch beyond the median line, on a level with the umbilicus. Upon the margin of the palpable part of the spleen, which is rounded, we find two deep notches, that give it an irregular shape. Extending in an upward direction we can trace the splenic dullness as far as the seventh rib in the intermammillary line, thus occupying considerable of the left side of the abdomen. The examination of the blood, for which I am indebted to Dr. Albert Faller, is as follows: Hemoglobin per cent., 65; white blood cells, 200,000; red blood cells, 4,500,000; specific gravity, 10:20. The pressure of a goodly number of myelocytes, eosinophiles, small and large, lymphocytes, mast cells and nucleated reds, make up the picture of the blood.

The examination of the blood was the only positive way of reaching a diagnosis, and, as you see, the colorless cells of the blood are greatly in excess; therefore, we have a case of leukemia or leucocythemia. It is true that leukemia is usually accompanied by enormous enlargement of the spleen, by disease of the bone marrow, sometimes by great swelling of the lymph glands, or increase in the size of the liver. But these organs are subject to enlargement from so many causes (some of which will readily occur to your minds) that it is unsafe to conclude that a case is one of leukemia because such a condition is present, even when accompanied by the above symptoms. Besides, there is no need to insist upon a careful study of the clinical characteristics of leukemia for the purpose of making a diagnosis, except for the interest the varied symptoms produce. A simple microscopical examination of a dried blood film, properly stained, settles the question absolutely and at once, without having seen the patient at all, whether leukemia is present or not. It appears to me that either we are recognizing more and more by our improved methods of blood examination these pathologic conditions, that only a few years ago were of but passing comment, or else there is an increase in the number of cases of leukemia. In the past few months, in searching the literature, I have been struck with the number of cases reported, and, also, with the turmoil of terminology.

Leukemia or leococythemia has been described as a disease characterized by a considerable and permanent increase in the number of white corpuscles of the blood, by a diminution in the number of red corpuscles, and by enlargement of some of the lymphatic organs. The lymphatic organ most frequently involved is the spleen. This enlargement of the spleen is sometimes associated with enlargement of the lymphatic glands, and sometimes, although much less frequently, with changes in the medulla of the bones. In very rare cases the lymphatic glands only are involved, and cases are described in which only the osseous medulla is principally involved. The involvement of the various tissues, either individually or together, leads one to classify and name according to the predominance of tissues involved, so that we have a lymphatic leukemia where the lymphatic glands are involved, along with a preponderance of lymphocytes and eosinophiles and an absence of myelocytes in the blood; and, on the other hand, where the osseous medulla is involved, accompanied by an enlargement of the spleen and the presence of a goodly number of myelocytes, eosinophiles and basophiles in the blood, we have the condition called myeloid leukemia (the chronic type of which our case is an example). According to the duration and course of these conditions, we further subdivide them into acute and chronic lymphatic or myelogenous leukemia. Then we have a combination of the two types, lymphatic and myelogenous forms, where we have both an involvement of the lymph glands and the spleen, with the presence of lymphocytes, large and small, basophiles and myelocytes. Dr. J. S. Fowler, of Edinburgh, writing in the "International Clinics" for July, 1903, offers still another addition, and reports a case of a child aged five years, in whom there was enlargement of the spleen and lymphatics with a preponderance of lymphocytes of the transitional type, and calls this type the intermediary form of leukemia. Leukanemia is, also, another term that Leube gives, and it includes those cases only infrequently observed in which there are blood changes that are partly of pernicious anemia and partly those of mixed leukemia. This condition has been discussed by H. Luce, who describes a case, reviews the literature of the subject and reaches the conclusion that these cases present no distinct clinical picture, and that the condition does not deserve a special name. He believes that it is a leukemic change in which there has been especial stimulation of the erythroblastic tissue. And last, but not least, is that interesting disease which has been so ably described in the *British Medical Journal* of May 5, 1902, and called chloroma, the clinical picture and blood changes, along with the nodular or tumorous subcutaneous extravasation of blood of a greenish color, which I have seen accompany this case herein reported, seems to me, as has also been stated by John Lindsay Stevens, in an article in the *Glasgow Medical Journal* of July, 1903: "That from the pathological standpoint the most astonishing feature (in some cases of acute and chronic leukemia) is the presence of a green-colored blood-clot in the large vessels and of the subcutaneous blood, infiltrated nodules and lymphatic glands of a green color. This feature at once raises the question of the relationship of acute or chronic leukemia to that rare form of green-colored tumor which has been named chloroma. Certainly, if the color of the tumors on section in these cases of leukemia determines the name, then these subcutaneous nodules are chlormatic. The etiology of these anemias or leucocythemias present interesting and difficult problems for our consideration, for, attributed as a causative factor in the production of these pathologic changes we are probably concerned with a micro-organismal infection."

W. Turk, in the *Berliner Klinische Wochenschridt* for 1901, writes an article which deals mainly with the claims put forward by Lowit to the discovery of a blood parasite as the cause of loukemia. Lowit, at the Medical Congress at Carlsbad in 1899, describes what he took to be an ameboid organism in the leucocytes in both myelogenous and lymphatic leukemia. Turk at once undertook to demonstrate that these so-called parasites were no more than basophile granules of the mast cells commonly met with in leukemic blood, which had undergone certain changes as the result of special staining methods employed. Within a year Lowit had abandoned his parasite of lymphatic leukemia in favor of a new organism which appeared as a round or oval body, situated within the nucleus. It was further proven that the fresh parasite is, in reality, merely an intranuclear body that is found in nearly all normal lymphocytes.

The conditions which influence the prevalence of this disease are obscure.

Two-thirds of the cases are in males. The majority of the cases occur after puberty and before the age of fifty; cases have been seen in the very old, however, and in infants and even in the fetus.

Saenger (*Gaillard's Medical Journal*, September, 1890) says, however, that intrauterine transmission does not exist, but it still remains an open question whether or not an hereditary predisposition may be transmitted which may lead it the subsequent development of the disease.

From different sources (A. E. Taylor in Sajous' Cyclopedia of Medicine) stress has been laid upon the possible predisposing influences of the infections, especially malaria, of pregnancy and lactation; of traumatism, and in children of ricketts and syphilis.

J. B. Nichols, in *American Medicine*, July, 1903, says: "Barring the possible nervous origin of the disease, which, however, has not yet been suggested, the possible explanation of the etiology seems to be limited to these: (1) That it is due to a vice in the internal process of cell life and division and comes into generalized activity and results in exaggerated leucocytic hyperplasia; (2) that it is the result of toxic substances of unknown origin; and (3) that it is of infectious or parasitic origin. This latter theory is the only one that has been the subject of direct investigation. The results have not confirmed the theory. The explanation of the causation of leukemia would, therefore, seem to lie between the toxic theory and the hyperplastic theory, with the probability in favor of the former. It remains further to be shown whether there is but one specific cause for these diseases and whether there is but one cause for the different forms of leukemia."

The pathology, like the etiology, of this disease is obscure. The theories which aim to account for the lesions of leukemia are, first, the Virchow-Newman theory, which considers the excess of white corpuscles due to an abnormal hyperplasia of the hematopoietic tissue, and most of the adherents of this view have conceived the hyperplasia as analogous to that seen in malignant neoplasms. The evidence points strongly to the correctness of Virchow's theory—that leukemia is a disease primarily of the blood-making organs and that the increase of leucocytes takes place in these organs.

The marrow cells or myelocytes are believed to be identical to the cells of the marrow, and not ordinary leucocytes increased in size by hyperplasia. The Bilsiadecki-Lowit theory predicates a retardation in the evolution and prolongation of the life of the circulating leucocytes, the collection in the tissue being interpreted as the result of the deposition of the excess of the circulating leucocytes. Of these two theories the first undoubtedly contains the primary truth that there is a marked hyperplasia of some or of all the resident lymphatic tissue, and that the circulatory conditions are dependent thereon. It is held by some to-day that leukemia is an infection, and that the hyperplasia of the lymphatic tissue and the circulatory excess of white cells is the result of a specific stimulation and leucocytosis analogous to those seen in the course of other infections. Be this as it may, it remains to demonstrate the presence of a micro-organism in the blood, and until then we will lean to the Virchow theory and endeavor to clear up by repeated examinations of the blood, as well as pathologic examinations, these mooted questions.

The course and duration of this disease varies. In acute leukemia it runs from a few days to six weeks, in the chronic form the duration varies from one to four years, and even longer cases have been recorded. In the myelogenous forms we may and do have remissions. During these remissions the leucocyte count may fall to normal. The percentage of myelocytes usually remains large, so that if we see the cases then for the first time the diagnosis would be easy. Occasionally myelocytes and all other evidence of leukemia disappear, so that diagnosis in such remissions is impossible.

As to the prognosis, Jacobi, in the third edition of his book of "Therapeutics of Infancy and Childhood," in referring to leukemia, says "that he knows of no authentic cases, either acute or chronic, that ever recovered." There have been cases recorded as cured which proved later to be remission of symptoms. All, then, that remains for us in the treatment of these conditions is symptomatic treatment. Many remedies have been recommended, such as bone marrow, arsenic, extract of spleen, quinia, strychnia, and locally the application of the faradic current, and, also, splenectomy has been advised and done. In the great majority of cases, however, the cases terminating fatally, in the control of hemorrhagic symptoms such as the bleeding from the gums, hemorrhage from the stomach and the subcutaneous extravasation of blood, I have found the administration of adrenelin, 1 to 1.000 solution, given in doses of from ten to thirty drops, four times a day, of benefit. Large doses of sodium salicylate control the arthritic pains that at times affect these patients, and the application of the X-ray applied over the region of the spleen to the lower end of the sternum and the epiphyseal extremities of the long bones alleviates distressing symptoms, reduces the size of the spleen, lowers the temperature, and, in some cases, may assist in the elimination of toxines, and, judging from observations of this case, not only materially improves the patient, but prolongs their lives.

Editorial.

MARK A. BROWN, M.D., Editor.

Cincinnati, Saturday, March 4, 1905.

ARMY MEDICAL CORPS EXAMINATIONS.

At present there exist in the Medical Corps of the Army twenty vacancies, which it is hoped will be at least partially filled by the preliminary examinations to be held this year. These examinations will take place on May 1 and August 1 at points to be hereafter decided upon. In order to appear before the board application must be made to the Surgeon-General, and such application must be in his hands on or before the first of April for the May examination, and on or before the first of July for the August examination, in order that all necessary arrangements may be completed. For it has been determined as far as it is possible to hold the examinations concurrently throughout the country wherever boards can be convened, so as to save applicants travelling expenses. Applications must be in the handwriting of the applicant, and the essential requirements to the securing of an invitation to appear before a board are that he should be a citizen of the United States, between the ages of twenty-two and thirty, a graduate of a reputable and duly recognized medical college, of good moral character and habits, and that he shall have had one year's hospital experience or its equivalent in private practice.

It is very probable, as heretofore, that applicants from this city will be called before a board to be convened at Ft. Thomas, Ky. Cincinnati, through the splendid training secured her graduates by interneship at the various large hospitals of the city, has been enabled to supply not alone the army, but the navy and the Marine Hospital Service, with many of their most prominent members. Positions in these corps are not the sinecure they once were, and especially is this true of the Marine-Hospital service. To be sure, a man may stagnate here as in any other walk of life, but every facility is supplied for original research work. Witness the paper recently read before the local Academy by Dr. Percy Ashburn, a former Cincinnati man, on "The Spotted Fever of Montana," a most valuable contribution to American medical literature. (Incidentally this paper will shortly appear in these columns.) There are always vacancies in these corps; but it is for the reason that but a very small percentage of applicants are ever accepted. For while the government is in need of physicians, it is not proposed to recruit the full strength at an impairment of efficiency. It is only after the most rigid physical and mental tests that the applicant is accepted, and then it is only conditional to a second successful examination after six months' work at the Army Medical School at Washington. But a young man could go further and fare worse than in becoming a member of one of these corps. His social and professional position is assured, and he is able to carry on investigations in his chosen life work without the fear and fight for the almighty dollar forever staring him in the face.

OYSTERS AND TYPHOID FEVER.

The sporadic outbreak of typhoid fever occurring at Lawrence, Mass., during the fall and winter of 1904, following as it did so closely upon the great epidemic at Butler, Pa., excited at that time, it will be remembered, considerable comment from the public press. Both epidemics were investigated by George A. Soper, consulting engineer, who, both from his knowledge of his particular profession and his deep research into medicine, is eminently fitted to cope with his difficult subject. His observations will serve as a model to those conducting future investigations in this line, and are fully embodied in a recent contemporary.[1] It is impossible in an article of this kind to go fully into his work. Suffice it to say that he was able to trace the sporadic outbreak, with reasonable certainty, to contaminated oysters. The village was in all other respects sanitary, and the investigation showed that two-thirds of the cases were traceable directly or indirectly to shellfish taken from water contaminated with sewage. As at least two hundred times as many oysters were shipped to distant points as were eaten in the village, Soper thinks it most reasonable to infer that many cases of sporadic typhoid are due—indeed, in this particular instance, were due—to this particular cause. His recommendations are worthy of quotation in full:

"Your board has as much legal right to regulate the purity of shellfish as to regulate the purity of milk. One is quite as important as the other. It is, in fact, your duty to exclude from sale in the village over which you have jurisdiction, all oysters, clams and other shellfish which are liable to cause disease.

"I positively believe you will find small difficulty in accomplishing this end if you will act with firmness, moderation and tact. It is to the interest of honest oystermen to afford you opportunities for inspecting their methods of cultivating and handling the shellfish and taking samples of the same for analysis.

"In the event of your finding shellfish which are unsuitable for food in your territory, you have the legal right to forbid its sale, and, if necessary, destroy it without any compensation to the owners."

THE MUSKINGUM COUNTY MEDICAL SOCIETY.

It is with great pleasure that the announcement is made that the Muskingum County Medical Society, at its last regular meeting, by unanimous vote, made THE LANCET-CLINIC the official organ of the society. This society, though, of course, not the largest, is one of the most progressive in the State, and its members recognize the advantages to be derived from close association with a journal that circulates more widely in Ohio and the neighboring States than does any other medical publication. The advantages of such affiliation are numerous: It stimulates greater care and research in the preparation of papers; it increases the attendance at the regular meetings, and consequently enhances the scope and value of the discussions; it enables the secretary to secure more readily noted speakers from some larger medical centre, which, done judiciously several times in the course of years, brings to the society members who, through stress of work, have allowed themselves to become careless in the matter of attendance; it stimulates an interest in the progress of medical science and in medical literature; it binds the members of the society more closely together, and therefore renders more easy the continual labor of attempting to correct the abuses with which our profession is burdened.

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[1] Medical News, February 11, 1905.

It is with these objects in view that The Lancet Clinic is endeavoring to secure closer bonds of union with the county and district medical societies. While we have quite a number upon our list, we have room for many more, and in welcoming the Muskingum County Medical Society we take this opportunity of inviting to join us all who have not yet come into the fold.

EDITORIAL NOTES.

Dr. Joseph A. Hall, of Cincinnati, has been appointed to the staff of Governor Herrick, with the rank of captain.

Attention is called by the Health Officer, Dr. Clark W. Davis, to the fact that many physicians are failing to make reports of births to the department. According to the revised statutes of the State, these reports not *should* but *must* be made by the 10th of the succeeding month. Failure in reporting births is not only a legal irregularity, but such carelessness may be the means at some future time of aiding medico-legal crimes; at least by lowering the number of births it helps to register a diminished number of residents of the city.

Report of the Bureau of Infectious and Contagious Diseases for the week ending February 24, 1905:

Disease.	Cases.	Deaths.
Measles	0	0
Diphtheria	6	1
Scarlet Fever	14	0
Typhoid Fever	7	3
Smallpox	7	0

Attention is called to the fact that eight cases of smallpox were reported for last week and seven this week. No deaths have been recorded, so that it may reasonably be presumed that the degree of infection is mild. This, however, is no proof but that succeeding cases may assume a more virulent type. Examination of the report of the bureau shows that many wards have contributed to the total, showing that the foci of infection are quite widely distributed, therefore making the disease more difficult of extermination. The department again urges the necessity of wholesale vaccination.

P. S. CONNER, M.D.
J. C. OLIVER, M.D.

Surgery.

H. J. WHITACRE, M.D.
H. A. INGALLS, M. D.

Dangers from Indiscriminate Use of Carthartics in Acute Intestinal Conditions.

M. L. Harris (*Journal American Medical Association*, February 25, 1905) gives in very concise and forcible form the reasons for avoiding cathartics in acute intestinal conditions.

He believes that the intuitive feeling of the laity, that all will be well if the bowels move, has become so deeply rooted in the mind of man that even a study in the sciences and art of medicine at times fails to dislodge it. He believes that the physician commits the error of loading in cathartics through the lack of a complete appreciation of underlying pathologic conditions. He states that it should be understood and remembered and never forgotten that no patient ever dies simply because the bowels do not move. A patient may go days or weeks without a bowel movement and still continue his vocation with little or no inconvenience. The patient's danger lies not in the fact that his bowels do not move, but in the condition which produces the obstruction, and it is not only irrational but harmful to attempt to force a bowel movement.

In conditions of obstruction in strangulated hernia, peritoneal bands, volvulus, kinking, etc., that portion of the intestine lying cephalad of the obstruction is filled with fluid, the contents are churned back and forth by increased peristalsis, and finally, not being able to pass the seat of obstruction, are forced in the reverse direction back into the stomach. The stimulated peristalsis forcing the intestinal contents against the obstruction increases the strangulation and hastens the death of the bowel at that point, it produces dilatation and congestion, mucous and submucous hemorrhages, perhaps thrombosis in the wall of this portion of the gut, and increases its permeability to germs.

Cathartics cannot overcome a mechanical obstruction, and must necessarily hasten the extreme degree of destruction. Even in cases where the bowels do not move because of circumscribed inflammation, as in appendicitis, cathartics only tend to stimulate movement of the intestine and the dissemination of infection. A further objection to the administration of cathartics in acute lesions is the fact that the clinical picture is thereby masked for the surgeon, as seriously as after the the administration of opium. Exact physical examination and exact estimation of the value of the various symptoms is important.

When a case of this sort is encountered, the stomach should be thoroughly washed with salt solution or diluted soda solution and kept absolutely empty. The colon should be emptied by efficient ememata. The patient should be given drink by the subcutaneous administration of salt solution. Most important of all, the patient should be operated upon very early. The author gives the following reasons for the presentations of this paper:

1. To enter a protest against the very common practice of indiscriminately administering cathartics in acute surgical affections of the abdomen.

2. To emphasize the diagnostic importance of a careful and thorough examination of the abdomen at the earliest possible opportunity.

3. To urge the importance of placing the entire intestinal tract at rest in the manner above described.

4. To operate at once on all cases of mechanical obstruction just as soon as the diagnosis can be made. H. J. W.

Post-Operative Mental Disturbances.

Selberg (*Beitrage z. klin. Chirurgie*, von Bruns', Tubingen., vol. xliv, No. 1) reports seven cases of psychosis developing after aseptic operation and one after evacuation of an appendiceal abscess. All but one of the patients had a history of previous nervous trouble.

The nervous disturbances in these cases were in the nature of hallucinations, motor restlessness and ideas of persecution. Fear is the prevailing emotion. Only four patients recovered completely. One died in a sanitarium for mental diseases, two recovered from the acute stage, but were left with mental impairment.

The author warns against operation upon patients predisposed to a phychosis. These patients will usually attribute their nervous condition to the operation. The prognosis of the disease for which the operation is performed is always rendered more grave by the development of the mental disturbances. The prognosis as regards recovery from the mental symptoms depends largely upon whether or not it is due to physical causes or merely an aggravation of the pre-existing mental disturbance.

The editor had three experiences of this sort. In one instance a much-debilitated bank cashier was operated upon for carbuncle (excision). He progressed favorably for two weeks, then became seriously deranged, mentally. He recovered after three months of treatment and resumed his work. The second patient, operated upon for osteomyelitis of the femur, developed symptoms of melancholia and an uncontrollable fear that his family would suffer from starvation, in spite of the fact that his large business was in excellent condition during his absence. In the third case, not operated upon by myself, rather severe symptoms of neurasthenia were attributed to a lacerated cervix and perineum, and an operation was performed. This patient became acutely deranged and was sent to an asylum.

H. J. W.

THE most successful antidote to carbolic acid is a strong solution of Glauber's salt. —*Med. Summary.*

R. B. HALL, M.D.
J. M. WITHROW, M.D.

Obstetrics and Gynecology.

C. L. BONIFIELD, M.D.
M. A. TATE, M.D.

Lead Poisoning from Wall Paper During Pregnancy.

R. Lefour, Paris (*L'Obstetrique*), describes two cases of lead poisoning in which the cause was traced to the wall paper. Death of fetus in the first pregnancy and premature delivery with great debility of the fetus in the second case. Eleven samples of wall paper were obtained from different merchants; nine had a basis of lead and two of copper. He found 1.2 gm. of lead to the square meter in the paper which contained the least and 7.68 gr. in the one that held the largest proportion of lead. The latter was of the class called velvet paper.

M. A. T.

Tubal Pregnancy of Years' Duration.

A very interesting case is reported by Fenwick (*British Medical Journal*, December 31, 1904) of tubal pregnancy of long standing. Patient aged forty-five. Abdominal tumor very large, fecal urine, hectic temperature and emaciation marked. Bladder walls healthy, bulging forward, and under the prominence a fistulous opening was found by cystoscopic examination. Fenwick thought he had a suppurating ovarian cyst, probably dermoid. Opening made by abdominal route. The enormous mass was probably intra-peritoneal, but adherent to the abdominal wall in such a manner that the peritoneal cavity was not opened. Pus, feces, gas, fetal femur, humerus, escaped upon irrigation, and a macerated fetus was found lying in this puddle of feces and pus. The parts of skull bones were adherent to the walls of the sac and had to be peeled off with some force. The intestines were also adherent. This immense cavity was thoroughly flushed out and packed with gauze, but the patient died in a few hours.

The patient gave a subsequent history, saying that eight years ago she was pregnant, and even went so far as to make arrangements for her confinement. The various symptoms subsided and so did the abdominal swelling some, but for seven years she had known of the presence of a large lump in the abdomen. Three months ago she received a severe blow on this large lump, and two days later she had great pain and then asked for medical aid.

Autopsy.—A left tubal pregnancy which had suppurated, adhered and perforated bladder and sigmoid bone. The bones were examined and the fetus found to be about the fifth month.

M. A. T.

Care of Puerperæ.

James D. Vorhees, New York (*Medical News*, January 14, 1905), states, and very properly so, that asepsis should not stop with the birth of the child. For the first two or three days he places a piece of gauze with a 1 : 10,000 bichloride solution over the vulva beneath the sterile vulvar pad. He condemns early vaginal examination and douching. At the end of ten days hot douching is ordered to aid involution of uterus. If there is much relaxation of uterus, an intra-uterine douche of acetic acid has given good results. The abdominal binder is of importance for the first three days; it gives support to the abdominal walls and keeps down the gas. To assist involution change of position of patient is encouraged. Patients are kept in bed two weeks, and if subinvolution persists hot vaginal douches, boroglyceride tampons, ergot, quinine and strychnine are of service. A routine examination before patient is discharged should be made to determine the possible existence of erosions, inflammations, displacements, etc.

M. A. T.

Chorea in Pregnancy.

The dangers of delay in treatment of cases of chorea is emphasized by Semple (*Northwest Medicine*, December, 1904) by the reciting of two cases. In the first case the attacks of chorea progressed so rapidly, both in severity and frequency, that the patient had to be restrained from falling out of bed, and the urine and feces were voided involuntarily. The uterus was emptied, but patient's enfeebled condition was disastrous, and death followed in four days. After such an experience the second case encountered was not allowed to progress as in the first, but the uterus was emptied and recovery followed. Zweifel recommends emptying of uterus as soon as the diagnosis is made; this, however, Semple does not agree to. The mortality of such cases is very high, ranging from 20 to 35 per cent., but Semple states that a good percentage will get well on merely medical treatment. If a trial of medical treatment does not give prompt results, the emptying of uterus is strongly advocated. M. A. T.

Dilation of Os.

Philander A. Harris (*Medical Record*, December 17, 1904).

The experience of Harris with manual dilatation of the os dates over a period of twenty years. Great stress is laid on equable and constant pressure on the ring; this gives results, and the greatest strain is needed in requiring the first four or five inches of dilatation. Fifty minutes is the average time required to dilate safely to a circumference of ten to twelve inches. The drawback to this method is that the hand cannot be properly sterilized and becomes very tired, so to obviate this Harris has invented an obstetrical dilator to be used in suitable cases. M. A. T.

Eclampsia, with Report of Cases.

In a very exhaustive résumé of the causation and treatment of eclampsia, L. M. Allen, New York (*American Journal of Obstetrics and Diseases of Women and Children*, February, 1905), who has had a large and varied experience, judging from the report of cases, draws the following interesting conclusions:

1. Eclampsia is due to a toxin which very probably has its origin in the liver.
2. Its origin is maternal rather than fetal.
3. Premonitory symptoms are always present.
4. The most constant and important premonitory symptom is frontal headache.
5. The diagnosis of toxemia of pregnancy should be made early, and, if patient is under observation, this can generally be done.
6. Mortality should be kept under 20 per cent.
7. Treat premonitory symptoms until, in spite of the treatment, they get worse, then empty the uterus, as in some cases this is the only method of stopping the progress of the disease.
8. Deliver as quickly as possible, consistent with cleanliness and preservation of soft parts; bleed, removing from 300 to 700 c.c. as the case may indicate; infuse, giving from 500 to 1,000 c.c. of salt solution, depending upon the amount of blood withdrawn and character of pulse; this may be repeated later; morphia, gr. ¼ hypodermatically to relax the muscular system; croton oil, gtt. i–gtts. ii in olive oil ʒi–ʒii, followed by magnesia sulphate, ℥ss in saturated solution until effectual as purgative.
9. Milk and water diet.
10. Other conditions treated symptomatically. M. A. T.

Rupture of Circular Sinus During Labor.

C. Maygrier, Paris (*L'Obstetrique*), reports six cases. Three of the patients were i-para, normal presentation, but the children were undersized. The hemorrhage was characteristic. A contraction of the uterus forced the blood out of the ruptured sinus, and when the head pressed on the soft parts bleeding ceased. The hemorrhage began again just as soon as the contraction relaxed. If there is no engagement of presenting part and the circular sinus has ruptured, hemorrhage will be continuous. M. A. T.

Lumbar Puncture in Eclampsia.

Lumbar puncture was practiced by Henkel (*Centralblatt f. Gyn.*) in sixteen cases of eclampsia with apparently negative results. Krönig reports favorably on this method of treatment, but Kleinwächter criticises him for his report, and also warns his young confrères against this method. M. A. T.

COCAINE, four grains to the ounce, applied to the nipple, and well washed off before the child suckles, will earn for you the gratitude of mothers suffering from sore and fissured nipples.

SARSAPARILLA is ridiculed by the majority of physicians, but in those obstinate cases of syphilis where iodide of potassium alone has no effect, sarsaparilla combined with it will bring out the virtues of the iodide.—*Med. Summary.*

The Lancet-Clinic

A Weekly Journal of Medicine and Surgery.

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ECHINACEA ANGUSTIFOLIA.*

BY C. S. CHAMBERLIN, M.D.,
CINCINNATI,

Although echinacea is reputed to have been a remedy which was held in the highest esteem by the Indians of the Southwest, the first use of the drug by white men, so far as I can discover, was in 1870, as the principal ingredient of a cure-all put up by an irregular practitioner of Nebraska, and well illustrates the reluctance of the regular profession to investigate any new remedy which does not emanate from some dye-works in Germany and is not so protected by our patent laws that the article, which is profitably sold in Germany at $1.00 per pound, may be gently unloaded upon the confiding medical profession of America at $1.00 per ounce; in fact, there may be more truth than poetry in the statement of a prominent pharmacist, that "the leading physicians of America are leaders in everything but therapeutics; that they are always the last to realize the value of a new remedy of American origin, and never adopt it until they are forced to admit that the Eclectics (to whose confident and painstaking investigation of indigenous plants we owe more than one of the most valuable agents in our materia medica), and even the old grannies, quacks and other irregular practitioners are obtaining therapeutic results which cannot be equalled by the use of orthodox remedies."

This cannot be said of the imported article, for only let an abstract of an article in the *Deutsche Medicinische Wochenschrift* or the *Archiv fuer Verdanungskrankheiten*, upon a new coal-tar synthetic, by Professor Doc. Med. Weinerwurst, of the *Limburger Clinic* at Anheuser-Schlitzberg am Pabst, Germany, appear in *American Medicine* or the *Journal of the American Medical Association*, and the demand for this by-product of the manufacture of aniline dyes will at once be so great as to tax the resources of our "ethpharmacal" friends to supply an imitation (made from acetanilid) of the latest medical gold brick in quantities sufficient to satisfy our passionate longing. As well try to satisfy the thirst of the desert!

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11-13, 1904.

Echinacea has proved, in the short time since its introduction, a remedy of so great value in septic conditions that it is styled by Eclectics, "the great corrector of dyscrasia," and, with the possible exception of aconite and bryonia, is probably more frequently prescribed by them than is any other single drug; and yet, in spite of the fact that more than ten thousand medical practitioners hold this remedy in such high esteem, it seems impossible to awaken any interest in it among the regular profession. Personally, I have, within the past three years, written to more than one thousand physicians, calling attention to the medicinal value of echinacea, and recommending it as being, at least, worthy of careful investigation; and yet, with the single exception of a promise given me at the New Orleans meeting of the American Medical Association, in May, 1903, by Dr. Oliver T. Osborne, Professor of Materia Medica and Therapeutics in the Medical Department of Yale University, to have the drug examined and tested physiologically and clinically, I have no evidence that I have been able to create any real interest among physicians in this valuable remedy, so that I suppose I should feel satisfied if I succeed in exciting even the passing interest of the members of this association.

Numerous articles upon echinacea have appeared in the various Eclectic publications, and the reports of the meetings of their societies contain frequent references to the various uses they make of this drug; and yet, with the exception of an article entitled "Echinacea: Some of its Uses," which was read by Dr. Wm. T. Shumaker at the meeting of the Northern Tri-State Medical Association, at Elkhart, Ind., December 1, 1903, published in the *Therapeutic Digest*, and a brief letter, scarcely more than a paragraph, by an author whose name escapes me, published, I believe, in *American Medicine*, I have never seen anything upon echinacea in a regular medical journal.

Echinacea is used both as a local application and as a remedy for internal administration, and it has been recommended and used for a very wide range of pathologic conditions, including boils, carbuncles, abscesses, cellutitis, diphtheria, cerebro-spinal meningitis, ulcers, wounds, gangrene, bites of venomous insects and reptiles; in tonsillitis and catarrhal affections of the naso-pharynx; in fermentative dyspepsia, stomatitis, thrush, cholera morbus, cholera infantum, dysentery; in the exanthemata, in puerperal fever, and cancerous cachexia, and locally to relieve the pain of scirrhus; in dermatitis venenata, in gonorrhea, leucorrhea, vulvitis, eczema and psoriasis.

Echinacea has also been used with alleged good results in tubercular and syphilitic conditions as well as in the local treatment of erysipelas, and there can be no question of its value in the treatment of pyorrhea alveolaris and as an antagonizer of pus and septic conditions generally. In my own experience, the results attending its use have convinced me that there is no remedy of so great value in the treatment of cases of septic infection, and I have repeatedly used it in cases of septicemia following wounds of the extremities, which I am confident, by any other means of treatment, would have resulted in the loss of the limb, and possibly the life of the patient.

Echinacea has even been recommended as a cure for tetauus. Dr. John Herring, of Eau Claire, Mich., reports thirty cases of this disease in which he claims to have successfully used the remedy; while Dr. Lewis, of Momence, Ill., reports three such cases. Another case of like nature was reported in the *National Eclectic Medical Journal* of September, 1903. The cases of Drs. Herring and Lewis were reported in the *Chicago Medical Times;* and here I find I must credit another regular physician with a few words upon echinacea. This is Dr. V. E. Lawrence of Ottawa, Kas., who recommends, in the *Alkaloidal Clinic*, echinacea for bed-sores, gangrene, septicemia and snakebite, and states that the action of the remedy is "simply marvelous." Another case reported in the *National Eclectic Monthly* is that of an infant, the left side of whose face and one hand was badly lacerated by having been bitten by a rat. The reporter states: "When I saw the case the parts were intensely swollen and very dark in color, almost black. The hand was so much swollen that it did not look like a human hand. I advised equal parts of echinacea and water, applied by wrapping the hand in a cloth wet with this solution, keeping the cloth constantly wet. On the face a cloth was also kept wet with the remedy. In twenty-four hours the swelling was almost gone and the color was almost normal. What promised to be a severe affliction was relieved by this remedy."

Dr. Shumaker, in the article above referred to, states "that he has used the remedy in infants only a few days old, and in every stage of life to extreme old age, and so far has observed no deleterious result that could be traced to the toxic influence of this particular drug; and in view of this fact, with the gratifying experience in relieving many almost hopeless conditions of the varied forms of septicemia, leads to the belief that it is the best, and at the same time safest, of all the remedies of its class; and that it is especially valuable in the treatment of typhoid fever, modifying the severity of the disease and rendering the patient less liable to have complications; and given in smallpox, it robs the stage of pustulation of its frightful consequences. As a remedy for burns, it has no equal; it relieves the pain and burning sensation almost instantly, and less cicatricial tissue follows its use than does that of any other remedy or combination of remedies."

Dr. Shumaker has used echinacea in no less than twelve cases of senile gangrene, and with each case has become more convinced of its remedial value. Applied locally, it stops the sloughing, and a line of demarcation is soon pointed out.

Dr. Shumaker concludes that in echinacea we have the best and safest of all blood correctors. Even our Homeopathic confrères appreciate the medicinal value of echinacea, as is evidenced by the following extract from the *Medical Century:* "Echinacea is a valuable remedy when there is great glandular swelling, and a septic condition of the system, with fetor oris and pronounced prostration, the patient apparently unable to overcome the toxins of the disease."

The following cases are cited as illustrating the remedial value of echinacea and its adaptation to both external and internal use:

CASE I.

Woman, seventy-six years of age, poor circulation, with a varying amount of edema of the feet and ankles. In attempting to dig out a corn with a pair of old scissors a wound was inflicted, which soon gave every evidence of infection; the leg was swollen half-way to the knee, was discolored, the color shading from a bright red above the ankle to a deep purple at the toes; the skin was dry and hot, and tender to the touch. Echinacea was prescribed for both internal and external use, the prescription containing, in each fluid dram, fifteen minims of the normal tincture of echinacea, such a dose being administered every three hours. The foot was incased in a thin layer of absorbent cotton, which was then kept moistened with the echinacea, the same prescription being used both internally and externally. Relief of pain was almost immediate, and in two days the swelling had perceptibly subsided; improvement steadily continued, and at the end of three weeks recovery was complete.

CASE II.

Wholesale druggist, aged thirty-five; has always been subject to boils, which have always come in successive crops, no remedy which he has ever used having been successful in cutting short the visitation. The prescription in this instance contained as its active ingredient fifteen minims of normal tincture echinacea in each fluid dram, and he was directed to take this dose four times daily. The boil that was in process of eruption was aborted and no others developed.

CASE III.

Boy, seventeen years of age, clerk, consulted me on account of a sty which was beginning to develop upon the upper eyelid. As in the former case, he said he was subject to visitations of that sort, and that one sty would be followed by another, the successive crops lasting anywhere from three to six weeks. Prescribed as for Case II, with the result that the sty was aborted within three days, and it had no successors.

CASE IV.

Man, twenty-five years of age. In operating a machine, scratched the index finger of the left hand. No attention was paid to it at the time, and, although the wound was slow in healing, there was no marked evidence of septic infection until ten days later, when the finger was again caught in the machinery and the wound opened. Within a few hours the finger and hand began to swell, and when seen two days later was swollen and discolored nearly to the elbow; patient suffering considerable pain, and the hand and arm were very tender; glands in the axilla swollen and tender. The prescription, containing, as in the preceding case, fifteen minims of echinacea in each fluid dram, was given this patient and he was directed to take this amount every three hours. The hand and arm were enveloped in a thin layer of absorbent cotton, which was kept moistened with the echinacea. The same prescription was being employed for internal and also for local use. Improvement was marked within twenty-four hours; within three days all swelling had subsided, and within one week the wound had healed and the man was at his work.

CASE V.

Pressman, aged twenty-five. In operating a printing press the index finger of the right hand was caught in the machinery and the entire nail was forcibly torn from the finger. I saw this case immediately after the accident, and lightly wrapped a bandage about the finger and encased this in absorbent cotton and moistened it with the echinacea in the strength above indicated. There was considerable smarting for one minute, from which time there was no pain whatever from the wound, echinacea having a pronounced anesthetic action. The wound received no other dressing and healed promptly with no untoward symptom, and the man did not lose so much as one hour's time from his work.

Cases VI, VII and VIII were of acne, and in each instance the disfiguring eruption entirely disappeared after taking echinacea for from three to four weeks, a result which I have never been able to obtain with any other remedy.

CASE IX.

Dermatitis venenata, occurring in a young man twenty years of age; both forearms from the wrist to the elbow were a solid mass of papules liberally interspersed with pustules in various stages of development. Itching was constant and so intense as to prevent his sleeping at night. A lotion containing fifteen minims of echinacea to each fluid dram was prescribed, and the patient directed to loosely bandage each arm and to keep the bandages moistened with the lotion. Itching ceased immediately after the first application, and within forty-eight hours it was evident that the disease was not only arrested, but that a cure was being effected, and within one week from the first application the skin was perfectly restored to its normal appearance.

I should consider this paper incomplete if I did not report the following case of extensive laceration of the hand occurring to the porter employed in the same printing establishment with the pressman, whose case is reported as Case V. This man's hand was caught in an elevator, and, although no bones were broken, the hand was badly crushed and lacerated. Upon the advice of the pressman above referred to, the hand was bound up, without washing, in a dirty cloth, saturated with the echinacea lotion. This dressing, if it may be dignified by that name, was not removed for five days, but was kept continually moist with the echinacea lotion. The wound healed perfectly, and at no time was there so much as a suspicion of infection, which would seem to prove that we have in this drug a very powerful and perfect antiseptic.

I could prolong this article indefinitely by relating numerous other cases in which I have used echinacea, but, lest I further tire your patience, will conclude by saying that the conditions for which I have prescribed echinacea have, as a rule, been of a septic nature, and the results in each instance have been satisfactory. much more so than has been the case with any other local or systemic antiseptic or alterative of which I have knowledge.

Since the foregoing was written, I have received letters upon the subject of echinacea from Drs. Royal C. Adkinson, of Florence, Col., and J. M. Fawcett, of Wheeling, W. Va.

Dr. Adkinson reports as follows: "A year-old case of otitis media in a healthy man, with profuse discharge absolutely resisting all the regular forms of cleansing and antiseptic treatment for six months, and after two months of cleansing a d echinacea—normal tincture—full strength, the discharge is reduced about two-thirds in quantity, and the aching and fullness and the slight mastoid tenderness formerly present are entirely eliminated. It is altogether probable that the limit of usefulness of this treatment has been reached and that the case will demand some operative interference; but the fact remains, as I stated it to your informant, that this tincture must have had a marked influence for good, and it was the only thing that effected any marked diminution in the discharge and other symptoms. This fact was so impressive to me that I have placed this drug at the head of my list in my treatment of cases of this character."

Dr. Fawcett's letter reads: "Your letter of September 12 inquiring about my experience with echinacea angustifola has been received. I did not answer sooner because I had several cases under treatment at the time I received your letter; these have all recovered now. I have employed this remedy of late in styes, ulcers of the cornea, etc., where I formerly gave sulphide of calcium internally. I believe since using echinacea this class of cases has responded to treatment more promptly and recovered in a shorter time than formerly. One case in particular of ulcer of the cornea that was increasing under sulphide of calcium and the usual local treatment, and which indicated a serious outcome, improved almost at once after beginning the echinacea and recovered in a few days, no change having been made in the local treatment."

DISCUSSION.

Dr. R. E. Haughton, Richmond, Ind.: I am interested in this question, because every man who lives in a town in which there is a vast amount of machinery will see many cases of injury. I have not used this remedy, but I am anxious to use any remedy which will produce the results he declares. There is nothing in our professional ethics which will deter us from using any remedy that is useful. The question is whether this remedy is bactericidal. A wound wrapped up with a dirty cloth saturated with this tincture and the wound progressing satisfactorily, would seem to indicate that it is of value. Hence, I would ask whether it is bactericidal? It also raises another question: Do we believe that bacteria exert as much influence in the production of disease as is declared by the profession? I, for one, do not believe it.

Dr. Hugh T. Patrick, Chicago: I would just like to make a suggestion to Dr. Chamberlin on this subject. He says he has written to a thousand physicians, and seems very much hurt at the scanty response he has received. I would like to suggest to the doctor that if he wishes to prove the value of echinacea he must go at it in another way. Anybody who uses a remedy on the bald assertion or recommendation of any man is not true to his trust. Nobody has a right to abandon anything with which he is acquainted for something recommended. The question has been raised as to whether this remedy is germicidal. It is so easy and simple to determine whether any remedy is germicidal and what germs it kills There is nothing shown that is really conclusive. The fact that this remedy has been used for such diverse affections would seem to show that the results have been the result of enthusiasm rather than observation. The essayist says that the remedy had been used even in tetanus, the very remark showing a certain doubt on his part. The mere recommendation of a remedy is not sufficient reason for adopting any method of treatment. The cases should be reported a little more in detail in order to be convincing proof. Mere assertion without proof is not sufficient, and I think the highest compliment to the profession is that his remedy has not been largely adopted, following the methods which have been used for its introduction. I do not say this in criticism of the remedy or Dr. Chamberlin's enthusiasm for it. But I think if he will adopt a more systematic method he will find it will be either largely used or definitely abandoned.

Dr. J. H. Stealy, Freeport, Ill.: I have given this echinacea a trial. Take the average case of local sepsis from an injury, and if you use any moist lotion, as of boric acid or alcohol or plain sterile hot water or arnica, and often they will get along very well. I have used the remedy both locally and internally. In cases of general sepsis I have used it to my heart's content, and found it not worth any more than any other preparation we have that is inert.

Dr. C. S. Chamberlin, in closing: In answer to the question, "Is the remedy germicidal?" I cannot answer it. As stated in my paper, I had a promise of Dr. Osborne to have the remedy carefully examined in Yale University, but they have not yet examined it. The preparation I have used is known as the normal tincture, a term used originally by Eclectics. But instead of being prepared in a dilute menstruum, it is made in a strong alcoholic solution. The effect may be due to the alcohol. I remember very distinctly from my childhood days a very noted case in which alcohol was used, that of the good Samaritan and the wounded traveler, in which wine and oil was poured into the wounds. But that would not account for the effect of echinacea when given internally. My proof, of course, is all clinical. I am situated so that I cannot investigate this by laboratory methods, and except in a chemical way it has not been studied. It has been shown not to contain any alkaloid nor glucoside, but it contains an oil, the nature of which is unknown.

Question: May not the alcohol internally act as an anesthetic?

Dr. Chamberlin: Not in the small quantity used. As to binding up a lacerated wound with arnica for several days, as suggested by one of the speakers, I would not permit him to do that with me, for I would expect then to have a worse hand than if it were not treated. If I have stimulated investigation of the subject, I will be satisfied with the result of the paper.

When the brain is much involved in a disease quinine is contra-indicated.—*Med. Summary*

PUBLIC CARE AND TREATMENT OF INEBRIETY.

BY T. D. CROTHERS, M.D.,
HARTFORD, CONN.,
Superintendent Walnut Lodge Hospital.

There is no phase of the alcoholic problem more startling than the blundering attempts of the State to solve it. Some conception of the efforts to correct the alcoholic evil by law and legislative methods is apparent from the fact that in the year 1903 over 500,000 persons were arrested in this country, either charged with being intoxicated or for crimes committed in that condition. Statistical studies and observations which can be made in every community show that this method is a total failure, from the fact that less than 1 per cent. of all the persons treated in this way receive any permanent benefit. It is well known that in every city and town the number of persons constantly arrested for drunkenness are increasing, and are called "repeaters." They appear in the courts for the same offence over and over again as long as they live, and comprise from 70 to 95 per cent. of all arrests. Thus, one person may appear many times in the course of a year and be fined and imprisoned for the same or like offence. Each arrest and punishment makes the victim more incurable and his restoration less possible. As an example, in a city in Pennsylvania, 1,000 arrests in the year 1903 represented only 280 different persons, some of whom were arrested six times. The cost to the community by this method of cure amounted to over a $100 for each person in actual expenses to the tax-payer, to say nothing about the losses to their families and the pauperism indirectly following. In one town in New York an estimate of the expense of each inebriate punished during the year amounted to nearly $200, besides the increased helplessness of the victim and the pauperism and degeneration which fell upon the families.

On the moral side there are in religious, political and other societies over a million persons united in constant efforts to check inebriety and alleviate the attendant evils. In this confusional state, all sorts of moral theories are urged to explain and sustain methods of treatment by the pledge, prayer, persecution and punishment of the victims. The failure of these efforts is apparent. Every study of the records brings into greater prominence the fact that not only the number of inebriates is increasing, but the losses and degenerations following, both to the individuals and the community, are more startling and serious. A consciousness of the helplessness of the situation and the magnitude of the evils calls for other and scientific methods for the study and treatment of this condition. Already the outline facts indicate that inebriety is a disease following a uniform law of causes and effects, marked by beginning, development and decline, the same as other diseases.

The law assumes irresponsibility when the man is intoxicated and arrests him, then treats him as a criminal or one who is dispossessed of his senses and can be made sound and rational by force. As a criminal, he is fined with the idea that the suffering which follows will force him to be temperate and sober in the future. Practically, if he is married, the fines fall most heavily upon his family, making it more difficult for them to live and support themselves, thus increasing the perils of pauperism. The repeated fines and short terms of imprisonment increases the disease and degeneration of the victim, and are actually more dangerous and fatal than the saloons. Physically, the short or long imprisonment of the inebriate simply removes him from the opportunity to use spirits, without giving mental or physical strength or even power to resist in the future. The drinking man is always debilitated, and suffers from impaired brain and nerve force. In prison the hygienic influences are not good, and seldom encourage healthy growth of body or mind. The quality and quantity of food are not adapted to restore the weakened organism, and the mental surroundings and associates lower all self-respect and ambition for the future. The removal of alcohol and the substitution of depressing mental and sanitary conditions make it more difficult to recover, and in most cases leave the victim feebler and with lower vitality.

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* Read before the Ohio Valley Medical Association, Evansville, Ind., November 9–10, 1904.

Thus the first sentence and punishment has often been a switch-point by which the victim has been turned to a descending side track farther and farther from the main line of healthy living. Each year this farce of trying to prevent inebriety by fines and imprisonment goes on without a break. Crime is increased, pauperism is encouraged, and the most dangerous sanitary conditions are fostered, and with them the burden of the tax-payers and producers is made heavier. The State, through the faulty theories and machinery of the law, is actually training and graduating classes of incurable inebriates, paupers and insane persons, who are increasing the burdens and perils of life, both to the individual and the community.

The superstition of personal freedom and free will which permits this army of inebriates to go on year after year destroying themselves and forming centres of pauperism, which pass on into the next generation, is one of the most serious blunders of modern times. Inebriety and the inebriate are medical and sanitary topics, which cannot be ignored. No community can afford to tolerate the presence of one who persists in destroying his sensory activities and general physical and mental capacity to work harmoniously in the community and observe the rights and interests of others. Such a man is a peril from the infection and injury inflicted upon his own, as well as his neighbor's, interests. He is paralyzed and poisoned, and is a medical subject, not a criminal or sinner. When he is studied and his disease fully recognized, then the remedies and the means of prevention will be apparent. For a long time science has pointed out a new field for the study of this great evil, and indicated lines of treatment which promise a revolution, not only in practically stamping out the drink disease, but in clearing away the pauperism and degeneracy which follows.

The first step in the scientific treatment of the inebriate is to consider every constant or periodic drinker a public nuisance, not only injuring his own health, but also the comfort and sanitary conditions of his surroundings. Like the smallpox case, he must be quarantined, not only for the protection of the community, but for his own sake. He needs protection, direction and control. He needs medical care and surroundings fitted to secure for him healthy conditions of living. No one should be allowed to destroy themselves by drugs and spirits and so entail on their descendants weakness and degeneration. All such persons forfeit their personal liberty and become public nuisance and peril to all progress and civilization. Public sentiment should not permit anyone to become an inebriate, nor tolerate him after he has reached such a condition. He should be prevented and forced to come under care and treatment as one dangerous to the safety and welfare of society. Every inebriate should have a legal guardian and his personal liberty be restricted as long as he continues to use spirits. Nothing can be more disastrous from a scientific or sanitary point of view than the indifference which permits men and women to destroy themselves by the use of alcohol and other drugs. Probably a large class of inebriates in this country are without means of support other than what they can earn from day to day. When they stop producing they become burdens on their friends or the community.

Another class of inebriates have homes and property, which, sooner or later, disappear, and they are then precipitated to the pauper or dependent class. For both classes the State should build workhouse hospitals and industrial homes in the country upon large farms in the most favorable surroundings. Here physical and mental training, medical care, and profitable occupation should be concentrated, and applied to every inmate. Such hospitals should be conducted on a military plan, each patient given some duty and required to exert himself in helping to contribute by his labor and care towards the support of himself and others. Employment of some kind and duties requiring military exactness should be a part of the work. Each man should be organized into the working force of the hospital and made a producer in some way, and kept in training, not only for the purpose of self-development, but also for increasing the value and usefulness of the institution. All the conditions of life should be regulated with military exactness. Every source of debility and disease should be removed. Careful nutrition, baths, exercise, mental and physical remedies, and every possible curative agent which can be found to restore the energies of the body should be enforced. Patients who show a capacity to become more than self-supporting should be placed where any surplus earned could be credited to him and his family. These hospitals should become industrial centres for the production not only of the food required by the inmates, but of products that could be exchanged for other necessities. Patients should be sent to these hospitals on a legal commitment before a local magistrate or judge of the city or county courts. This commitment should be based on the testimony of two physicians, the members of his family, and of the community in which he lives, that the person is an inebriate and uses spirits and drugs constantly or at intervals to excess. The judge should sentence him to such a hospital for periods of from one to three years, with the provision that when he exhibits a degree of restoration he may be allowed to go out on parole. On relapsing, he should be returned, and after a reasonable time of experiment, if it was found that he could not live a sober life outside, his commitment should be permanent. These hospitals should take not only the pauper classes, but those able to pay, treating them substantially in the same way, combining labor with restraint and military care, and also with every condition known to build up body and mind.

The professional man and the laborer should be placed in conditions and surroundings suitable to build up and restore their diseased state in the same or different hospitals, and all be mutually self-supporting. Every town and city should have special industrial homes for inebriates, built on the cottage-plan system with ample power of control.

Every inebriate in the community should be regarded as having forfeited his personal liberty and become a public nuisance and an obstacle to civilization and progress. The disease which he suffers from not only affects himself, but the community, making it necessary that he should go into a hospital, on the same principle that smallpox or other infectious diseases are quarantined. This is simply a law of self-preservation for the strong and healthy. The money to build these hospitals should come from the license revene, on the principle that every business should be made to provide for the accidents and expenses which follow it. Railroad companies and other corporations are forced to pay damages for the accidents which occur in their business, and this is always conceded to be just; but to-day the money received as licenses for the sale of liquor is used to support courts and jails, and the inebriate, by fines and imprisonment, is made worse and more incurable. Thus, literally, the business of selling spirits is increased by the efforts of courts and jails, which make permanent patrons for saloons of all who are punished. Everyone who is arrested for intoxication is henceforth a customer of the saloon, and the very object of the State to diminish inebriety by this means is defeated.

Private enterprise should be encouraged by legislation to provide smaller hospitals for the more fortunate classes, who are able to pay for better surroundings and are unwilling to enter public institutions. Here the commitment should be forced also, and the restraint should be military and home-like, with all the appliances of science that experience has sanctioned and used to build up and restore the lost health. Already there is evidence that a large per cent. of all inebriates can be restored to health, and nearly all can be made self-supporting in properly conducted hospitals. The seclusion and restraint of the incurable inebriate, which now infest every community, would be seen in the diminished numbers of inmates in every asylum, almshouse and hospital in the land. This would be practically checking the great fountain-head of insanity, criminality and pauperism, and would stamp out much of the evil and misery which now prevails. To the tax-payer there would be an immense gain in the diminution of the burden of the criminal and pauper classes.

Physicians in every community should strive to create a public sentiment for the enactment of laws recognizing the disease of inebriety, and giving cities and towns power to build hospitals, and raise the license fund to pay for them. Ten per cent. increase of the license fund would build and put in operation a number of hospitals of this class. Industrial workhouses along economic lines on large farms in the country, conducted on military principles, where the labor of the inmates may be directed to the support of the institution, will stop the tides of pauperism, criminality, epilepsy and insanity. Then every inebriate who becomes a burden on his friends and the community should be forced into this industrial community and made to be a producer, where now he is a consumer and burden.

Long ago a noted physician wrote: "No man in any community has a right in his personal conduct to peril the interests of others." Society gains nothing by tolerating the presence of anyone whose liberty is dangerous to them. Human rights gain nothing by allowing any man to be at large for a moment who is destroying himself, his family and neighbors. What we need to-day are tests and gauges of this fitness or unfitness. The remedy which should be applied, and which is already indicated in a thousand ways, is that we must regard this army of inebriates as diseased and dangerous, and the highest interests of society demand that they should be quarantined and their liberty restricted, not as criminals to serve out short sentences in jail, not as willful sinners to be cured by fear, suffering and punishment, but as diseased and mental cripples, needing guardianship, medical care and the direction and control of others. Like the insane, or cases of infectious and contagious disease, they need isolation and treatment in special surroundings.

The time is not far distant when this vast army of 500,000 persons who are punished legally for intoxication and the crime following will disappear, and the inebriate in every community will be forced to go to the hospital before he becomes a criminal and pauper, and this will solve the major part of the great problem. The whole subject must be taken up by physicians, and studied on its physical side from existing conditions. Corporations and capitalists are alarmed and refuse to trust their interests to drinking men. They assert positively that all drinking persons are unsafe and dangerous, and should come under special care and restraint, yet the mass of the community are still indifferent and tolerate them.

The treatment of inebriety in industrial hospitals is no experiment or novelty. Its practical character is apparent in many of the institutions where these classes are received in this country. The Massachusetts Inebriate Hospital, at Foxboro, annually treats five to six hundred patients of this class. Nearly all of these persons have been and would be repeaters in the lower courts of the State, spending their time in jails, station-houses or saloons. Under confinement at this hospital they remain from one to five years, and are thus forced to temperate living. It would be difficult to estimate in figures the relief and gain to both the families and communities by the forced restraint of these persons. The Elmira Reformatory is another pioneer hospital where the workhouse principle of treating inebriates and criminals is practically demonstrated. Who can estimate the relief and gain to the community which follows directly from the housing of these classes, and yet this will be a reality and practical work in the near future. Recently the great wave of empiricism which has swept over the land, claiming to cure inebriety by some secret remedies. has clearly pointed out possibilities of cure, not in the number of persons restored, but from the fact that any were benefited by such blundering efforts.

For years the treatment of inebriates in private homes, asylums, and even home treatment by the family physician, based on theories as diverse as the men who urged them, and by methods and appliances of the most imperfect character, have been followed by a measure of success which is most encouraging for the future. These and other efforts are very hopeful indications of what can be done from a more exact knowledge of the disease of inebriety and its care.

The medical profession have hardly yet taken up this topic. Their efforts so far have been mostly confined to the relief of the acute symptoms without thought of the possibility of prevention and cure. In the meantime, every advance of science brings into greater prominence the influence of alcohol as a very large factor in the causation of acute and chronic diseases. Public sentiment, recognizing in a dim way the failure of the legal and moral efforts, turns to the medical professor for help in the treatment of these cases. There is no theory or sentiment in the facts of disease, and the burdens and losses which follow from the inebriety of the victim. It is a condition with consequences that must be recognized. Indifference and toleration or childish efforts utterly inadequate can make no impression. Each advance of science brings out the fact of disease more sharply, and the need of exact means and measures to reach it.

In this study the fact I wish to emphasize is that inebriety is one of the most serious diseases of modern times and one that is curable by special surroundings and by special means. One of these means to control and cure the incurable classes is industrial hospitals situated in the country, built from the license fund, and supported by its inmates. Laws must be enacted to organize and conduct such institutions.

This disease must be studied and controlled, and the medical profession should lead in a new crusade for the exact care and treatment of the inebriate. Public sentiment will sustain efforts of this kind. We have come to a point when a radical revolution is demanded in our current theories and methods of regarding the inebriate.

The success in Havana in driving out yellow fever is only an object-lesson of a larger and more complete preventive work in the housing of the inebriate and his medical treatment. The high rate of the mortality, pauperism, criminality and a vast host of diseases will practically disappear when the inebriate is treated and cured in such hospitals.

TWO ETIOLOGICAL FACTORS IN PELVIC DISEASES IN WOMEN, THEIR PREVALENCE AND PREVENTION.*

BY J. H. FIRESTONE, M.D.,

FREEPORT, ILL.

For convenience, pelvic diseases in women may be divided into two classes, namely, reputable and disreputable. By reputable I mean that class of cases that are open to general discussion, town gossip, etc. By disreputable that class of cases that are not open to common discussion, but are rather open to common and general cussing, both by the laity and the profession.

Under the first head or reputable cases we will place, first, all neoplasms; second, tuberculosis of uterine adnexa; third, infective traumata following normal labor or miscarriage.

Under the second head or disreputable cases we place, first, induced or criminal abortion; second, gonorrheal infection.

It is to the last two named I desire to call your special attention. The first of these, induced or criminal abortion, is a half-sister to manslaughter, who, to my mind, is a legitimate son of the devil. The second, gonorrheal infection, might have been a just and sufficient cause for the casting out of his satanic majesty from the presence of the Almighty if such had been the previous diagnosis.

Taking the Biblical phrase, "that the first shall be last and the last shall be first," literally, we will then consider gonorrheal infection first. It is but necessary to review the cases in your case-book for the past year in order to get a good idea of the prevalence of gonorrheal infection generally. Statistics show that the percentage of men in the armies who have had gonorrheal infection is very high. Eighty per cent. of the soldiers in the German army have had gonorrhea, and 70 per cent. of the American soldiers have had the same infection.

Prame reports 407 cases of prostatitis, in which 313 show gonorrheal infection by the use of laboratory methods, and suggests that probably a high percentage of the remaining 94 was undoubtedly gonorrheas, but which he was unable to demonstrate.

Noeggrath, in his published statistics of New York City, states that 80 per cent. of the married men have had gonorrhea at some time, and that 90 per cent. of those have not been completely cured. He also states that three out of five married women have some gonorrheal pelvic disturbance. This, to my mind, may be an extreme statement.

Zwiffel and Sawyer agree that 18 per cent. of all women have gonorrhea; Fitch declares that out of a hundred women who marry men who have been infected with gonorrhea, 90 per cent. have some gonorrheal disturbance of the pelvis.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11–13, 1904.

Prame reports that 68 per cent. of all women who have had gonorrhea have some disease of the uterine adnexa, and that 81 per cent. of this 68 per cent. are sterile.

per cent. of sterility in women is due to gonorrheal infection and its sequel.

Morrow declares that gonorrhea is a
Noeggerath and Neisser claim that 50
more active cause of depopulation than syphilis.

Jenett states that gonorrhea, with tuberculosis, is the greatest pest of the age; gonorrhea perhaps more than tuberculosis.

Infected adnexa become culture-beds and hot-houses for the tubercular bacilli, which all too frequently results in a general peritonitis, with its lingering days of anguish and pain, death finally closing the scene.

In looking over the data I concluded to try and get an approximate opinion as to the relative percentage of these two factors in the pelvic diseases of women. In order to do this I sent out cards to some of the best men in the profession, as far as I was able to judge, in the United States and Canada, asking them this question: "What, in your opinion, is the approximate percentage of all female patients who come to you for operation or treatment for pelvic diseases, whose previous history dates, first, from a miscarriage; second, from gonorrheal infection?"

In answer I received about 200 replies, 40 of which were so indefinite that they were of no value; out of the remaining I have arranged the following list of percentages: First taking them as a whole, we have the percentage of miscarriage, 27⅝; gonorrheal infection, 35½; total percentage, approximately, 63⅛. This list includes general practitioners, specialists in surgery, gynecology, and a few specialists in obstetrics and venereal diseases.

Dividing this list into their specialties, as far as I know them, we have the following percentages relating to each specialty:

In the practice of general medicine: Miscarriage, 23⅛ per cent.; gonorrheal infection, 61 per cent.; total percentage, 84⅛.

Specialty of gynecology: Miscarriage, 55.5 per cent.; gonorrheal infection, 14.9 per cent.; total percentage, 70.4.

Specialty of general surgery: Miscarriage, 13 2/8 per cent.; gonorrheal infection, 23⅔ per cent.; total percentage, 37⅛.

Specialty of obstetrics: Miscarriage, 24 per cent.; gonorrheal infection, 15 per cent.; total percentage, 39 per cent.

A few reports from the venereal wards of hospitals give this percentage: Miscarriage, 6⅔ per cent.; gonorrheal infection, 90 per cent.; total percentage, 96⅔.

Some authorities place the percentage of gonorrheal infection as high as 90 per cent., while others give an average percentage of only 15 per cent. The highest percentage in miscarriage in these reports is given at 55 per cent., while the lowest is 6⅔ per cent. This demonstrates that the rate of the percentage depends upon the class of cases that come into the hands of the different practitioners.

These statistics, however, cannot be considered accurate by any means, and can only be considered as approximate percentages. Yet they are sufficient to startle us and set us to thinking.

In the beginning, Adam and Eve were of perfect lineage and physical purity; in this age, and land, three-quarters of the population are polluted and disqualified, either directly or indirectly, for the propagation of future generations; one ounce of prevention against hereditary poison, both physical and mental, of past generations; the passions of millions and their personal influences; and last, but not least, the almighty dollar!

As a rule, all cases of gonorrheal infection, in either male or female, pass out from under the observation of the attending physician before they are pronounced cured, and go forth to pollute the next victim or victims. In this it acts very much like a chain of letters, where each person written to is requested to write five more; and thus the gonococcus can make a complete circle of the globe in a much shorter time than it usually takes our so-called "globe trotters."

What, then, shall we do? First, I believe that every case of gonorrheal infection should be reported to the local board of health the same as any contagious or infectious disease. A complete record should be made and kept of all cases by the board of health. This record should be in the hands of the medical health officer, and should not be made public under any condition whatever.

All reports to the medical officer of the board of health should be sent in sealed envelopes, marked personal.

All notices to the patient from the medical health officer should be sent in a sealed envelope and mailed directly to the attending physician.

A notice should be sent by the board of health to the patient as soon as reported, stating that his case had been reported to the health officer, and also stating the requirements relating to his or her case. No man or woman should be allowed to be discharged as cured until so stated by the attending physician in writing to the board of health, and a card of dismissal issued, signed jointly by the board of health and the attending physician.

Explicit directions should be given to the patient at this time to return to the attending physician for examination every thirty days for six months, and then return for examination every six months for two years more, which order should be enforced, and if not complied with, after due notification being sent, the party should be subject to arrest and fine. At the end of two years and a half, a final examination being satisfactory, he should receive a certificate of health and final discharge.

Second, all prostitutes to be reported in the same manner as above, and if they refuse to obey the law they should be quarantined until reported cured, and then discharged subject to the aforesaid regulations for two years and a half.

Third, there should be a law regulating marriage, which would demand a careful medical examination by the family physician and the health officer, who, jointly, should issue a health permit, which, upon presentation to the county clerk, shall entitle him or her to a marriage certificate. The aforesaid health permit not to be issued until after the final certificate shall have been granted, should either he or she have been previously infected.

Finally, in order to place the treatment and supervision of all the cases in the hands of responsible physicians, it would ne necessary to enact a law for the prevention of the sale of any drug or proprietary medicine used in the treatment of these cases without a written prescription from a practicing physician.

INDUCED ABORTION.

There is no class of cases that come to the office of the physician that he so desires to get rid of, and by whom he so hates to be consulted, as the woman, either single or married, who is seeking to have an abortion performed. Neither is there any one who comes to the office who is so willing to make all sorts of promises of any kind, including money remuneration, if she can only gain her object. The deception and tricks employed by these patients to have you ascomplish the end they desire would deceive Satan himself, if he were either a first- or second-year practitioner.

I dare say there is not a physician present who has not lost some of his best friends and families because he has refused to perform what was at first requested, then demanded, and possibly even threatened.

It is to be deplored that such a crime as this should ever be laid at the door of a married woman, who, possibly, has been a mother, but my experience has been that it is from this class of cases that we get our highest percentages.

"The unfortunate girl who brings into the world a child begotten in sin is a saint in comparison to the married woman who either self-induces or succeeds in having an abortion performed."

How are we to prevent this wholesale slaughter of the innocent? I believe that the druggists and "the old woman's prescription-list," so-called, are responsible for the greatest part of this high percentage in this criminal work. How remedy the evil?

First, by drug-store legislation, prohibiting the sale of that class of drugs which may be used to induce abortion.

Second, by calling a physician in consultation with you, and, if possible, find out the accessory in the crime, if any; explain to them the magnitude of the act, and the penalty attached, and secure a written agreement from them never again to be guilty of this act, or suggest any method or drug by which it may be induced. Compel the old woman to abandon her prescription-list, if possible, by persuasion and agreement, and, if necessary, by force. Consultation is the safeguard of the physician from future legal complications or unjust criticism by friends of the patient, and may influence the patient sufficiently to change her future action.

Third, the daily press is also a factor in advertising Dr. Quack's favorite prescription. It should be prohibited by law.

Fourth, education. Every physician should educate his clientage, show them the greatness of the crime, the penalty imposed, and the possible physical outcome, and should refuse point blank to be a party to or a participant in the crime. We must not allow our sympathies to get the better of our judgment and commit a crime that will make us as guilty and deserving of the penitentiary or gallows as were the Chicago street-car bandits.

Fifth, the law should be enforced in the most flagrant cases.

Sixth, I suggest the following to the Physicians' Protective Association or similar bodies organized for the protection of the physician's interests: Have cards printed as follows: For the head line, "Physicians' Protective Association." Underneath this, in plain type, the State law relating to abortion, the magnitude of the crime, and the penalty attached. Beneath this the signature of every member of the Physicians' Protective Association, or, better still, the name of every physician in the community. Hand this card to your patient who is seeking an abortion and ask her to read it over carefully; give her time to digest it, and she may change her mind. This will also have a depressing effect upon the patients running around from office to office, and will help to hold our clientage, and may give us an opportunity to do something legitimate for them later.

Seventh, appoint a committee of the Physicians' Protective Association or similar bodies to take up the work along this line, and let the physicians stand together as a unit for the sake of the honor and the dignity of the profession, and repudiate the guilty charges which are so often unjustly laid at our door.

GASTROENTEROSTOMY.*

BY WILLIAM H. WATHEN, A.M., M.D., LL.D.,
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I will report today two cases of persistent indigestion resulting from chronic ulceration of the stomach, upon which I recently performed a posterior gastroenterostomy, draining the stomach into the jejunum three inches below its origin under the transverse meso-colon, thus eliminating the intestinal loop, and leaving the stomach and intestine in practically a normal position. By this operation, the only traumatism committed is the attachment of the bowel to the lower part of the posterior wall of the stomach, with an opening about two and one-half inches long to drain stomach contents direct into the upper part of the jejunum; otherwise, the intestinal tract is left in the same relation it was before the operation. This prevents the troublesome vicious circle and regurgitant vomiting, dangerous conditions that frequently follow gastroenterostomy as usually performed in this country with the loop, the attachment being either posterior or anterior. Most of the operations in this country have been by the anterior method, but the immediate and ultimate results are so far from being satisfactory, that the operation is being gradually abandoned. But most of our surgeons who formerly did the anterior method, still leave the loop. Mayo has done more of this work than any other surgeon, but until recently his operations were by the anterior method, and while he has now adopted the posterior method, he attaches the bowel ten inches below its origin, anastomoses the limbs of the jejunic loop by a Murphy button, and obliterates the proximal limb near the attachment, by plication or division of the bowel. This operation is more difficult, requires more time and commits more traumatism than the anastomosis near the beginning of the jejunum without the loop, and possesses no advantage over it. I predict that Mayo's experience by this method will finally convince him that it is not the best, just as his experience in the anterior method convinced him that he should adopt the posterior. It is well that these methods are being tested by such an experienced and honest surgeon, for the final results of his work will be conclusive, and carry conviction to other surgeons. Ochsner, another honest and excellent surgeon, is making a long series of operations in gastroenterostomy by the anterior method, using the McGraw ligature. I am sure his ultimate results will convince him that this is not the best method, and that he will very soon be making the posterior attachment with the elimination of the loop. With the McGraw ligature, the operation can be performed even more rapidly than with the Murphy button, but this ligature can be used in the posterior attachment just as well as in the anterior attachment; and if it will accomplish all that is claimed for the double suture with the removal of a strip of mucous membrane from the stomach and intestine, it will very much facilitate the work in gastroenterostomy.

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* Clinical report made before the Jefferson County Medical Society, Louisville, Ky., February 21, 1905.

Considering both the immediate and ultimate results, the work of Moynihan, of Leeds, is superior to that of any other surgeon. He reports 142 operations with but two deaths, and practically no immediate or subsequent complications. Robson, of London, does practically the same operation, and his results, while not equal to Moynihan's, are excellent in every way. The results of Von Mikulicz, Czerny and other distinguished surgeons in the posterior attachment have also done much to encourage surgeons to adopt this method.

The patient before you was operated upon about five weeks ago, and has just left the hospital. He has been vomiting for nearly six years—would vomit something of nearly everything that entered his stomach. He had lost twenty-five pounds and the pain was becoming so severe in the region of the stomach, that he was often compelled to take large quantities of morphine to relieve him. The scar of a large ulcer was found in the anterior wall of the stomach, and when the transverse colon, the omentum, and the stomach were turned out of the abdomen, and the mesentery of the transverse colon opened, extensive adhesions were found between the posterior stomach-wall and the small itoneal cavity. These were separated the posterior wall of the stomach d through the mesenteric opening and clamped in long forceps, the blades being covered with gum tubing. The jejunum was then clamped under its free surface by a similar pair of forceps three inches below the duodenum. Both the stomach and intestine were incised for about three inches, a wide strip of mucous membrane from each removed, and the anastomosis made by a double celluloid stitch, using a round curved needle. He had no untoward sympton, and was allowed to sit up and use the commode after the second day. He had no vomiting, took water and liquid food on the second day, and after a few days was allowed the regular hospital diet. He has suffered no pain since the operation and has gained flesh, and in every way is greatly improved.

The other gentleman was operated upon seventeen days ago, and I would have brought him before you had it not been that I did upon him at the time of the operation, an appendectomy, removing an appendix seven inches long, densely adherent, dropping down into the pelvis. He had suffered intense pain in the region of the stomach, extending obliquely downward to the right, for about eight months, which was always greatly increased after eating. He had lost much flesh and was growing quite anemic. The pyloric opening was contracted, and showed evidence of chronic ulceration; adhesions extended from the pylorus down the right side of the pelvis, including the appendix. Adhesions were found also under the transverse colon and its meso-colon; also around the upper part of the jejunum, indicating that there must have been some perforation of the stomach or of the duodenum. The gall-bladder and ducts were normal. The operation was performed just as in the other case, and he is now eating the regular hospital diet and is able to sit up and walk. He feels greatly relieved and has none of his old suffering. These patients are better if they are considerably elevated in bed as soon after the operation as is consistent, and in fact, I begin the elevation a few hours after the operation.

I show you schematic drawings that I recently made, illustrating the normal relations, and the relations after the operation has been performed. You will see that the only change is the attachment of the jejunum just below its origin, to the posterior wall of the stomach. I suture the opening in the meso colon to the gastro-jejunic attachment, taking my suture through the mesentery and the peritoneal and muscular coats of both stomach and bowel. Moynihan only indicates the coats of the jejunum, but by including both coats, you give better support by bringing the mesenteric tissue entirely over the suture, uniting the stomach and intestine. If we neglect to suture the torn mesentery, we leave a weakened condition and an opening that may admit the intestine into the small peritoneal cavity, and cause death by strangulation.

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

OFFICIAL REPORT.

Meeting of January 30, 1905.

THE PRESIDENT, S. P. KRAMER, M.D., IN THE CHAIR.

SAMUEL IGLAUER, M.D., SECRETARY.

The X-Ray as an Aid in Diagnosis in Some Ocular Traumatisms, with Report of Four Cases.

DR. D. T. VAIL: Over a year ago I exhibited before this society an electro-magnet, designed by Sweet, of Philadelphia, and reported four cases of penetrating foreign bodies in the eye, in each of which the iron fragment was successfully extracted by magnet attraction and the eyeball saved.

In the series of four new cases which I am about to report the magnet was of no avail. I report these cases in the order of their coming.

Case I. — G. M., aged thirty-two, referred by Dr. Whallon.

History: September 22, 1904. "Five hours ago, while cutting brass plate with cold chisel and hammer, a small piece of the brass struck him a sharp blow in the right eye, causing a gush of tears."

Status præsens: R. E : Inspection as regards lids negative. The cornea presents an oblique perforation in the lower inner quadrant running from the margin of the cornea toward the centre of the pupil, a distance of 5 mm. Behind this wound is seen a button-hole of the iris showing where the foreign body had penetrated that membrane. The lens is partly cataractous in the region of the iris wound. The ophthalmoscope shows distinctly a wound in the retina, located in the upper inner quadrant. This wound shows at its centre a linear bit of sclera surrounded by a zone of fresh hemorrhage. It is evident that the foreign body has struck here and has either fallen back into the vitreous chamber or passed on through the sclera into the orbit behind the eyeball. Owing to the cloudy condition of the inner half of the lens it is impossible to explore the vitreous satisfactorily with the ophthalmoscope. V. = fingers at five feet.

Sweet's electro-magnet was used without the slightest response. Case was referred to Dr. W. J. Taylor for X-ray diagnosis. Result: Foreign body is suspended in lower part of the vitreous.

Progress of case: The vision gradually deteriorated on account of slowly increasing cataract, but the eye quieted down. Finally, at this date (January, 1905), the eyeball is entirely free from irritation, tension normal, vision reduced to perception of light in eccentric field.

The foreign body still lies within the globe, but seems to be ensheathed in oxide and insulated with a capsule of inflammatory products, in which condition it may lie quiet for many years. Still, we are anxious regarding the welfare of his remaining eye, which up to the present remains entirely normal, and we expect to see this case again some time in the future (perhaps remotely), when enucleation will come up for consideration. The question might be asked, why not enucleate at once and remove that anxiety? The answer is that the eye looks entirely healthy, the foreign body is causing no irritation, there is a rim of vision still present at the side, and the indications for enucleation are not sufficiently strong. In our judgment any cutting operation with a view of finding and extracting the metal would add insult to injury, for this eyeball will not tolerate any meddlesome work of that kind.

Case II.—H. C., aged thirty-six, residence Hamilton, O. Admitted during my service at the City Hospital on October 12, 1904. The history, taken by the interne, Dr. Berghausen, is as follows: "Yesterday morning at Niles Tool Works, Hamilton, O., a piece of brass flew into the left eye, causing blindness. Went to a physician, who advised him to come to the Cincinnati Hospital."

Status præsens: R. E. normal. L. E., some bulbar injection; a horizontal perforating wound exists in the cornea in the upper outer quadrant, through which protrudes a small hernia of the iris; pupil is slightly dilated with atropine and is pear-shaped; plane of iris oblique on account of anterior synechia. Lens cataractous in the region of the wound, but the inner half of the lens is clear and permits a view of the fundus, which appears normal. Tension normal. V. = $^{20}/_{200}$.

Diagnosis: Penetrating foreign body in eyeball(?), traumatic cataract; hernia of iris. Advised X-ray for diagnosis; result, no foreign body present.

October 14, 1904. Under cocaine anesthesia the hernia was abscised by iridectomy, leaving the edges of iris free from adhesion.

Progress of the case: The eye went on to a perfect recovery. Vision subnormal on account of the cataract, but the eye is sound and free from the slightest evidence of irritation. The X-ray diagnosis has been corroborated by the progress this case made.

Case III.—A. B., aged about twenty-five, referred by Dr. Haarlammert, of Loveland. Called at my office November 7, 1904, presenting the following history: "Five hours ago, while working with hammer and cold chisel on boiler pipe, a piece of metal flew and struck him in the right eye."

Status præsens: R. E., the lower lid presents a button-hole perforation about 5 mm. below its margin. Opposite this the sclera shows a perforating wound 3 mm. long in lower inner quadrant of globe, about 8 mm. from corneal margin in the ciliary zone. A probe passes unopposed into the vitreous. Tension —2; pupil slightly dilated; anterior chamber deep; iris normal; lens normal; red reflex abolished on account of hemorrhage in the vitreous. Vision reduced to light perception.

Here was a case showing beyond the question of a doubt that a fragment of iron had entered the globe, but the Sweet electro-magnet, having a pull of 70 pounds, did not produce the slightest response. A large and powerful Victor magnet, having a pull of 400 pounds, was at that time in Dr. Ayres' care, and he kindly offered it for our use. It failed to make any impression on the foreign body, which patient insisted was of iron. And so the case was sent to the Presbyterian Hospital and Dr. Taylor brought into requisition with his X-ray apparatus.

The next day Dr. Taylor returned the diagnosis of the presence of a large foreign body *in the orbit*, lying in close proximity to the optic nerve. He stated that the localizing apparatus showed that the metal was outside the eyeball.

Four days later the vitreous clots had sufficiently resorbed to permit a view of the fundus oculi by means of the ophthalmoscope, and there could be plainly seen, located in upper inner quadrant in the bottom of the eye, the place of exit. A distinct wound passing through retina, choroid and sclera was discovered by Dr. Lamb and verified by me.

Progress of case: Patient was kept at the Presbyterian Hospital for six or seven weeks. Recovery slowly took place, but finally was complete, and now there is vision $^{20}/_{50}$; tension normal; eyeball entirely free from irritation, pupil normal in size and reaction. The foreign body still lies in the orbit, but is encapsulated and is causing no trouble.

Case IV.—F. F., aged thirty-one, referred by Dr. Bohlander. Called to see me December 8, 1904, with the following history: "Seventeen hours ago a lubricator glass attached to a stationary engine exploded a foot away from him and a fragment of the glass struck him in the open eye (left), causing pain and blindness."

Status præsens: L. E. An oblique perforating wound exists in the cornea in the inner half near the centre, running vertically a distance of 6 mm. The iris lying behind is lacerated and adherent to wound and the lens is cataractous and swollen. The appearance of the eye suggests the presence of a foreign body within the globe. The electro-magnet failed to show the presence of iron.

Case referred to Dr. Taylor for X-ray diagnosis. Result, no foreign body present.

Progress of case: Patient placed in the Presbyterian Hospital, when, on December 14, much of the soft cataract was let out through an incision at margin of cornea made by a keratome. At the same time the anterior synechia was liberated. Case improved steadily and eyeball cleared up, losing all signs of irritation and tenderness. To-day (January 30, 1905) we performed discission of the remaining cataract. The field of vision is normal and the progress of the case shows that the X ray diagnosis was correct.

The magnet failed to be successful in any of the above cases for the following reasons:

1. In Case I the penetrating missile was brass and not susceptible to magnet attraction.
2. In Case II no foreign body was present in the globe, although the history of injury and the appearance of the eye strongly argued its presence.
3. In Case III the iron fragment of large size had passed entirely through the eyeball, entering in front and emerging behind in the orbit, where it was so entangled in the tissues that its removal by magnet attraction was an utter impossibility.
4. In Case IV the offending fragment was of glass, a substance not susceptible to magnet attraction.

Failing to get response by means of a strong magnet in any of these cases, we would have been entirely at sea regarding the accurate diagnosis in the first place, and the location of the foreign body in the second place, if recourse had not been had to the X-ray.

Immediately after the magnet was used with such disappointing results, the cases were referred to Dr. Taylor, whose work with the X-ray apparatus was eminently satisfactory in clearing up the diagnosis and proving positively that no foreign body existed in two of the cases and in giving us the exact location of the foreign body in the two other cases.

We were able to satisfy ourselves in each of these cases that the X-ray diagnosis made by him and with the aid of the localizing apparatus which he used was absolutely correct.

Absence of the Meatus.

Dr. Ralph Tate: The first case is one of absence of the meatus. The child was born on Friday. The following Tuesday it was brought to me with this history. Voided urine once after birth, but not since then, nor had the urine been voided with the stools, as the stools were rather hard. The child was said to be good during the day, but cried all night. Nursed well and bowels moved regularly. The child was very small, weighed four pounds with its clothes on. Percussion failed to show much urine in the bladder, nor did the child cry when percussion was made. Examination of the penis revealed depression where meatus should have been, but I could detect no opening, even with a magnifying glass. With a probe I tried to find an opening in the depression, but could not. I then tried to dissect into the urethra at this point, but was unable to find any canal, and merely succeeded in setting up a hemorrhage. Fearing that my patient might die from hemorrhage if I persisted in dissection at this point, I then turned the penis up and made a horizontal incision on its under surface, just below the glans. Here I was soon able to find the urethra. I pushed a probe up through this opening through the glans and out through the opening I had commenced there, then sewed up the external skin wound below. I told the mother to bring the child back the next day, as I intended to keep the channel through the glans open, but, being a very ignorant woman, she did not appear for several days, and by that time it had closed, and the child was passing the urine through the opening, on the under surface of the penis. For a while the child thrived, but as the mother had to go to work they began to feed it on artificial foods, with consequent indigestion and decline in its weight. It did weigh seven pounds, but has since lost. Should the child survive I will try to open up the channel through the glans again.

There are several peculiar features in this case. First, the history of having passed water once after birth. Where did it pass it? Second, the fact that there was very little urine in the bladder after the child had gone for three days without passing any urine. Third, the fact that the child lived after being in that condition and also losing some blood at the time of operation.

Diabetic Coma.

L. Z., Jew, aged twenty-two, occupation book keeper. Father died of kidney trouble, mother living and healthy.

Personal history: About four months ago I attended him in a malarial attack, which subsided under proper treatment. Outside of that he said he had had good health.

Present history: Patient had had a severe headache for two days, but when I was called in the morning I was told that it had been merely during the night. When I arrived patient was in bed and had to be awakened. He answered questions readily, and although he seemed drowsy, I naturally supposed it due to his still being sleepy. He complained merely of severe headache. Pulse, temperature and respirations normal. I supposed it was an attack of migraine, so gave him the appropriate remedies and told the family to let me know how he was that night. I received the call at 6:45, but did not go until 8:15, as I was told that he was doing all right, but they wanted me to see him before I retired. When I arrived I found him in a comatose condition, and the family informed me that he had not been aroused since noon, but they supposed he was asleep, probably from some opiate in the medicine I had given. The breathing was natural, pulse of good volume, but slow and intermittent. Temperature normal. Left pupil dilated, right contracted, no reaction to light. When shouted at or tickled he would seem to arouse partially, but could say nothing. Thinking there might have been some mistake in the medicine, I went to the drug-store and investigated, but could find nothing wrong. I then returned to my patient with a catheter, and drew off about eight ounces of urine. When I examined it at my office I found the specific gravity to be 1042. I at once examined for sugar and found it in large quantity. Realizing the serious nature of the disease, I at once telephoned Dr. Mitchell to meet for a consultation. Returning to my patient, I found his condition practically the same, except that the breathing had become stertorous. As pulse was still intermittent, gave him a hypodermic of strychnia, gr. $^1/_{30}$. By the time Dr. Mitchell arrived his pulse was 76 and of good volume, and no longer intermittent. Pupils of both eyes were dilated and breathing very stertorous. He agreed with my diagnosis, and after we talked over the case I went to my office and to the drug-store to telephone for a nurse and get some medicine. As I was about ready to start the patient's brother came in and asked me to come at once. When I arrived I found another brother (a medical student) instituting artificial respiration. I found an almost imperceptible pulse. Gave strychnia gr. $^1/_{30}$; this brought up pulse so that it was easily perceptible, but very rapid. Then prepared for a hypodermoclysis, but after sticking in needle breathing stopped and pulse was gone again. In spite of all efforts could get no reaction. This was about 10:30 P.M. Man was comatose (from the history) only about ten hours. Osler reports a case when the patient died in half an hour.

Abscess from the Appendix.

J. G., occupation steam pipe-fitter.

Personal history: About two years ago I attended him for syphilis; had an initial chancre of the lip.

Present history: He was taken ill in a small town and came home at once. Complained of a pain in the right side and back, shooting down the thigh. Could hardly walk and stooped over when he did so.

Close questioning could elicit no history of blow or fall nor any history of pain in that region before this attack. Temperature was 100°, pulse 96. Some tenderness in right side just below ribs and in back near spine. I supposed it was a case of lumbago, as he had been working in a room that was very damp from the steam arising from pipes. In about two days the temperature was normal and his pain gone, and his condition so much improved that I said I would not return again. During this attack I had examined the urine and found it normal.

About four days afterwards he again sent for me and said the pain was very severe again. Now, going twice a day, I found the morning temperature ranged from 99½° and 100° to 101° and 102° in the evening. Tongue was slightly coated, but did not resemble typhoid tongue, nor did patient have the appearance of a typhoid. The bowels were loose, but stool did not look like typhoid. Spleen was not enlarged. There was some blood in the stool, but after a day I found that he had had bleeding piles for years.

About a week after my first call, when the tenderness seemed to be more localized in the front, I made a thorough examination of the abdomen and in percussion found that there was quite a large area of dullness on the right side, high up and seemingly continuous with the liver dullness. As I could not get the abdominal muscles relaxed I could not palpate anything. Stuck hypodermic with long needle in back at tender point, but got nothing but blood. Examination of urine again negative.

From the course of the temperature and the dullness and pain in the side, I thought there was abscess in the side, but was in doubt as to its origin. Called my brother, Dr. M. A. Tate, in consultation and took down an aspirating syringe with us. He agreed with me in the diagnosis of abscess, so I put in the needle at the most tender point in the back and drew off some very offensive pus. Sent case to the hospital and on third day operated, assisted by Dr. M. A. Tate. Made incision in back about three inches long, parallel to last rib. After going through skin and muscle struck pus and drew off about half a pint. After irrigating the cavity, explored with finger and found that the cavity extended far down into the pelvis, and tip of the appendix was felt in the bottom. Made counter-opening just above crest and put in drainage-tubes. Patient did nicely for first three days' temperature never going above 101°, but on fourth day, while making dressing, I noticed a sound as if gas were escaping, and the next day discharge became fecal. Put patient on nutritive enemas for several days; discharge still fecal. Then on liquid diet for about a week, and as the discharge was still fecal put on full diet and had him sit up in bed. Took out lower tube. By degrees I have had him sitting up and walking around; have shortened the tube, and the general condition has steadily improved, but the discharge is still slightly fecal.

Twins.

Called by midwife, who stated that labor had been in progress about six hours; that breech was presenting with a foot coming down, and although she had replaced the foot several times, no advance was being made. Also stated that patient was a small woman and child seemed a large one. Found patient in good condition, pains frequent. Examination disclosed child in left sacral anterior position, with a foot also presenting; os not quite fully dilated, presenting parts high up. With patient under an anesthetic replaced foot, tried to apply forceps to breech, but was unable to do so. Foot came down again and funis also prolapsed. Replaced funis and then brought down foot, and as patient was now allowed to come out from anesthetic somewhat, at once forced down breech. Now pulled down other foot, trunk soon delivered. Head delivered by index finger in mouth, child respiring several times in vagina. While I was bringing this child to a second was born with one pain, and born dead. Was much smaller than first and looked as if it had been dead some time. First child was a male and the second a female. Placenta proved to be a single large one with two cords attached.

A Case of Subdural Hemorrhage.

Dr. WALTER R. GRIESS: On August 3, about 4 P.M., this little patient fell from a height of thirty feet, while sliding down a banister. He was picked up in an unconscious condition, and remained so up to the time I was called—the evening of August 9, 1904, being six days later. Before this he was attended by two different physicians at different times, who, I believe, advised his removal to the City Hospital.

When first seen the child was comatose, with a flaccid paralysis of left side of face and arm and a slight spastic paralysis of left leg. Pupil on right side dilated and immovable, eyes crossed. Respiration 10 a minute and pulse about 140, temperature 103°. He was able to swallow a small amount of liquid at a time when poured into the pharynx, and in this way his mother had kept him nourished. His teeth were covered with sordes, and incrustations filled his nostrils and covered his lips. He was removed to the Betts Street Hospital, where he was prepared for operation, and the next day his general condition was much worse. His respirations were from 6 to 8 a minute, cynosis was present and the pulse was between 150 and 160.

The diagnosis of subdural hemorrhage was made before operation. On Augut 10, at 3 P.M., the patient was operated. A skin flap was made over temporal fossa. The trephine was applied about one and one-half inches from external angular process. The dura bulged into the wound, the opening in the bone was enlarged, and the dura opened. An enormous amount of blood-tinged cerebro-spinal fluid exuded. After enlarging the opening a diffuse hemorrhage between pia and arachnoid was discovered, extending down towards the base. It, of course, would have been folly to remove this extravasation, it being so interwoven with these structures. The moment the dura was opened the patient began to breathe better; cyanosis before this had been extreme, and we thought he would die on the table. The change which was produced by the relief of intercranial pressure was marvelous. The dura and external wound were stitched up in part, and silkworm drainage employed.

The morning after the operation pulse between 130 and 140, breathing about normal. He moved his left leg; still comatose, but facial paralysis was not so marked. During the night he awoke as if from sleep and asked the orderly for a drink of water. Upon the interne's arrival in the morning he was surprised to find our patient conscious. The recovery was rapid and the after-treatment of no special interest.

In closing I wish to state that the seat for trephining in this case was selected because all symptoms showed the exudate had extended to the base of the skull, as well as making pressure over the motor area; that for mechanical reasons better drainage could be obtained low down; that a clot could better be removed from below up than from above down; that the opening could easily have been enlarged upward and backward along the whole motor area if desired; and lastly, but a point of importance, intracranial pressure is relieved better by trephining at a lower point.

The case certainly demonstrates how intracranial pressure was relieved by draining off a lot of blood-tinged cerebro spinal fluid and giving the brain more room in a different direction (while the clot which was producing fecal symptoms was left *in situ*). If possible, we certainly would have removed this offending clot. This case brings out one fact, that if we operate to relieve intracranial pressure alone we should always trephine as near the base line as possible for immediate and ultimate results, the reasons for which I will not discuss here.

OHIO VALLEY MEDICAL ASSOCIATION.

OFFICIAL REPORT.

Sixth Annual Meeting, Evansville, Ind., November 9–10, 1904.

WEDNESDAY AFTERNOON SESSION.

PRESIDENT HAYDEN: The meeting will now please come to order. The first number on the programme is a paper on "Some of the Difficulties in the Diagnosis of Acute Appendicitis," by Dr. R. W. Fort, of Nashville, Tenn. Is Dr. Fort in the building? If not, we will pass to the next, which is a paper by Dr. Mark A. Brown, of Cincinnati. Is Dr. Brown in the room?

DR. FLOYD: Dr. Brown wrote me that it would be impossible for him to get here until late this afternoon, and he would like to read his paper in the morning.

PRESIDENT HAYDEN: All right. The next on the programme is "A Contraindication of the Pessary, with Practical Demonstrations," by Dr. Palmer Findley, of Chicago, Ill. Dr. Findley is not here. He sent word that it would be impossible for him to be here. The next paper is "On the Public Care and Treatment of the Inebriate," by Dr. T. D. Crothers, of Hartford, Conn.

DR. FLOYD: I think Dr. Reynolds is to read this paper. I think something came up at the last minute, and he couldn't come, and he got Dr. Reynolds to read it for him.

DR. REYNOLDS: He wrote me and requested me to read his paper and comment on it, and I think by the time I am through you will not want me to make any comments on it. (See p. 284.)

DISCUSSION.

DR. REYNOLDS: The President invited me to make a few comments on this paper. It is vastly more practical in scope and character than I anticipated from the title. Dr. Crothers is an earnest, hard-working, painstaking man, and accomplishes in a small way a great deal of good work, as he is a superintendent for the Institute of Inebriety. I must admit he has superior opportunities for studying the question. That a man suffers from inebriety requires no argument; that a community suffers from the influence of it requires no argument; that the State and country at large suffer from it requires no argument. The question is this. We must make a gaining if we establish the hospital suggested by Dr. Crothers out of what he calls the license fund. His theory is this, that we charge a certain license for the liberty to sell intoxicating liquors at retail. We should increase the amount of license sufficiently to raise funds adequate to establish a pauper farm, or inebriety hospital, in the district. I think it is a practical thing and a worthy scheme, and well worthy of our thought and attention. I am quite ready to say that I am in favor of an attempt being made in that direction. Now, every man that gets drunk and is arrested and is placed in jail costs the State something. If he is sent to the work house to break rock he is placed on a level with a certain class of criminals that are there. The rock they break may be sufficient to pay their board, but it is not adequate to pay the costs of prosecution and the processes of the court which are necessary in order to commit him, and then when he gets out soon forgets the incarceration. The disese that affects him has a sort of mastery over him. He is unable to resist the impulse. He goes along and sees the glittering lights and the gaudy fixtures of the saloon, hears the hilarious conversation within, and he says: "I will go in and see how the boys are getting along," and he goes in and takes a drink, and some one treats him and he treats the crowd with the money he should have taken home which is necessary for the life of his family. At last he is helpless, and is sent back to jail or the workhouse again.

Not only does this happen to men, but also to women. There are a large proportion of females in the city of Louisville and in other places in the workhouse undergoing punishment for what? For the weakness of nature for yielding to the irresistible impulse.

Men are sometimes cleared of murder by being able to show that they were mentally irresponsible at the time the act was committed, but who takes pains to see that anything is done to enable this mentally irresponsible being to earn his living and support his family? Who takes pains to prevent the repetition of such a crime? And there are many instances where murders are caused on account of drink.

I want to say something to you here, although I know it will not meet with popular favor, but I am as sure that it is the truth as I am that I am standing here. Tobacco lays the foundation for inebriety in more than 50 per cent. of the cases. Tobacco burns the lining of the mouth, and irritates the brain, sickens the first time you try it, and it is made tolerant at the expense of what? At the expense of the equilibrium of the brain; at the expense of the vital centres that govern not only thought and action, but the circulation of the blood current. And there are many thousands of people who suffer with the form of heart called the tobacco heart. It seems to me that physicians should recognize some of the means for its prevention. (Applause.)

Dr. Dixon: We all know, all of us who know Dr. Reynolds, that he is a tobacco fogy. He hasn't a tobacco heart, and hasn't a dear friend who has one, but tobacco is out of the question. It does not touch upon it at all. There is not a hope on this earth of keeping men from using tobacco, but there is a possible hope of being able to cure inebriates. But there is not a man in this house who will deny that he believes an inebriate is a diseased man, and as a disease it should be treated as diseases are treated. It causes persons to be paupers, and leads to more misfortunes and broken-hearted mothers and fathers and wives and sweethearts than any other one thing, perhaps not even excepting opium or cocaine, or any other narcotic drug that we know anything about. If alcohol is a disease, and we do not doubt it, I believe with Dr. Crothers that steps should be taken, not as we take them by sending a man away to take the cure, as he calls it, because if we send him there he goes unwillingly and his pride is hurt, and he is humiliated to a certain extent, but not nearly so much as the man that is arrested and taken to jail. Take, for instance, the case of a young man that is well-to-do in this world's goods; is of a good family; has the confidence of everyone; marries a fine young woman and then commences to drink until his sustenance is all gone and he becomes a bore upon his friends, upon the State and upon the community. Now, to arrest that man and put him in jail does not do him any good; it does not cure him. but only makes him worse. This does not kill the desire for alcohol, but it humiliates him and kills his pride, and doesn't give him a chance to come up again. If he is not arrested he has lost his position and lost his friends and he begins to associate with men who are beneath him. He now begins to associate with persons whom he would not have associated with at all before he began to drink. He is not employed. He has enforced idleness, and, being idle, he finds the little maxim, "The devil finds bad things for idle hands to do," comes with force in his case. He passes the saloon and goes in, and a friend of his is in there. Some man who does not think what a serious thing he is doing says. "Let's have a drink." He has that drink, and then a drink, and then another, until he becomes a confirmed drunkard

What shall we do with this man? I think Dr. Crothers has solved that properly in his paper. I am very glad to hear it. There is no question about the fact that that sort of treatment can be brought about in every State provided the medical profession will put their shoulder to the wheel and try to bring it about. It cannot be brought about in any other way except through the medical profession. There must be something done when men like this go and get drunk every day in the week. Some one will say, "Have a drink with me," and he keeps on drinking and treating the crowd until he hasn't a cent on earth. What is then to become of him? According to this idea of Dr. Crothers, a man could be taken and cured and made a man of. He doesn't lose his pride; he is not humiliated. He is not thrown into jail. It is as much the duty of the State to have institutions of this kind as it is to have a place for their lunatics. Alcoholism is one of the most dreaded diseases. A man that is a lunatic is taken care of by the State. A man that is an alcohol lunatic is allowed to go about and commit crimes and then he is thrown into jail or sent to prison. This doesn't cure a man; it doesn't do any good, but is absolutely harmful. I am in favor of of the plan.

Dr. Griffith: This is certainly a very interesting question, but I do not agree with everything that has been said along the line. It seems to me that the best way to handle this question is along the line of education. We must teach these people that they are exposing themselves to a disease just the same as if they should come in contact with smallpox or any other disease. The liability is large, and if they are fully aware of the danger there is of contracting the disease they would refrain from exposing themselves. If we can only impress this upon their minds this is the only way that we can protect the laity at large from the dangers resulting. I do not believe that arresting a man does him any good. The danger of inebriety is not to himself or to those about him. The danger is to his progeny, and this the human race depends upon. This is a serious question and should be so considered.

Dr. Hendershot: I think this is a subject that should be well discussed and studied among medical men. I think that medical men should set the example in this respect as ministers set the example before their flock. I think that medical men should set an example to people at large that drink is not only dangerous to the health, but also to the welfare of the community, as we all know. It is strange how many medical men drink. They make the excuse that they are exposed to the elements—the weather at large—and they are compelled to take a stimulant. They say they have to do this to keep up their health. I know old practitioners who have been in the practice of medicine from thirty to forty years and they are the best preserved men. I know a man that is sixty-five years old and has practiced medicine for forty years, and he never took a drink in his life, and he is well preserved. I also know of some other medical men—and they are in evidence most everywhere—and they are only about twenty-five or six years old, and they were only in the practice two or three years until they were forced to leave the community and go out in the world in other lines, whereas they might be respected in the medical profession if they had only let alcohol alone. We should meet the medical men shoulder to shoulder, and when we see one of our brothers going down hill on account of drink, we should call his attention to it; we should go and reason with him and get him to stop it. You should be able to warn the men that come to you of the evil effects. We should lead such a life in this respect that we can invite folks to follow our example. We should keep down this drinking. I am not a prohibitionist. I do not object to a man taking a drink from a social standpoint, but a man, out of respect to himself and the medical profession, should not become a drunkard.

Dr. Stone: I have enjoyed the paper and the discussion, but I never voted the prohibition ticket in my life. I never voted anything but the Democratic ticket, and I usually get beaten, you know. It strikes me that it is queer that we license men to create this disease in a community. It then becomes our duty to treat them after they have been made wrecks of. It strikes me that it is the duty of the physician in every community to build up a sentiment to keep the saloon out of the community, then it would not cost the country anything to keep the inebriate, for I think we would then be without them. I think it is only through the physicians that we can get this sentiment all over the country. If we could build up this sentiment and place over the country the institutes that have been suggested here we would perhaps accomplish more than in any other way. But wherever and whenever we can get an opportunity to cut off the source of the poison from the convenient handling of it, and taking of it by these inebriates, I believe that the citizens who love their country should endeavor to do so.

Obituary.

WALTER S. CHRISTOPHER, M.D.

Dr. Walter S. Christopher died at his home in Chicago, March 2, 1905. Since his youth the writer has known Dr. Christopher, and watched his career until the end came with much interest, for it was from first to last unusual. First of all, he was an ardent lover of his profession, and had a capability of analysis of his cases which I have never seen equalled. This faculty made him a fine diagnostician and clinician. In practice he neglected everything that he might further study his cases, and was eminently successful. In a dozen years his professional business grew from literally nothing to many thousands a year. He was a marvel even in Chicago. From his beginning in that city he was appointed Professor of Disease of Children in the Polyclinic and in the Chicago College of Physicians and Surgeons. Lately he has been obliged to relinquish these positions because of the exactions of private practice, but now he is no more. That he was popular goes without saying. He was a good all-round man, even tempered and of a lovable disposition.

A widow and two children survive him, while a great multitude of fellow-physicians mourn his demise. It is in the heart of the say to write much more of his intimate friend Dr. Christopher, and even then the half could not be told. So it is *requiescat in pace*.

J. C. C.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, MARCH 11, 1905.

ANTISTREPTOCOCCUS SERUM IN ERYSIPELAS.

Since the introduction of serum therapy in the treatment of erysipelas by Marmorek, in 1895, many observations of its effects have been made, both in this country and abroad, with a rather favorable verdict. Recently Ayer[1] has used the serum in fifteen cases of this disease, and has compared the results with those obtained in a previous series of seventy-nine cases, all of which latter, with the exception of four, were treated by the usual methods in vogue before the introduction of serum therapy. Ayer's comparison is of particular value in that the mortality statistics of the two series are of such a character that the exact cause of death is made perfectly clear. In forming any conclusion as to the value of one kind of treatment as compared with another, this latter point is essential, yet it seems to have completely escaped the attention of many previous clinicians in their experiments in this disease. For it must be remembered that in erysipelas, perhaps more than in any other infectious disease, mortality, when it does occur, is dependent more often upon complications than upon the erysipelatous inflammatton *per se*. Thus the so-called alcoholic meningitis, delirium tremens, pneumonia, uremia, chronic nephritis, pyemia, are all complications that occur with peculiar frequency in this disease and contribute in great part to the high mortality. In Ayer's first series, for example, with a total mortality of nearly 15 per cent., over 13 per cent. was directly due to the complications above mentioned. The mortality statistics are, then, to say the least, unsatisfactory, and Ayer, in judging of the value of the serum treatment as compared to older methods, has preferred to rely on his observations as to the relative effects of the treatments on the general conduct of the disease, its duration and severity.

In the first place, as in other diseases of this class under serum therapy, the value of the treatment depends upon the time that has elapsed from the onset of the disease to the installation of the treatment. As a general rule, the good effects of the serum were noted in the course of a few hours; there was a sudden fall in temperature; the pain and burning so much in evidence in this disease were lessened; restlessness diminished, the patient often falling into a deep sleep, from which he awoke comparatively free from any distressing symptoms. With the constitutional improvement the local conditions also became less violent, as shown by diminished swelling and inflammation at the point of infection. Albuminuria, so common an accompaniment, does not make its appearance if the injections have been given early, or, if given late, the albumin disappears in uncomplicated cases after the first or second treatment. Leucocytosis diminishes proportionately, while suppuration rarely if ever sets in after the treatment has once been well established. Glandular enlargements are checked and reduced.

In a treatment of this kind it is well to ask what are the disadvantages, if any. Ayer is authority for the statement that, aside from a transient and insignificant eruption at the site of the injection, they are *nil*. In conclusion, then, it may be said that in the serum treatment of erysipelas we appear to have a remedy that will promptly and reliably shorten the course of uncomplicated cases, diminishing the severity both of the local and constitutional manifestations; a remedy the use of which is unattended with danger even when given in large doses; the efficacy of which is in direct ratio to the length of time which has elapsed between the onset of the disease and the first injection of the serum.

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[1] Medical Record, March 4, 1905.

THE CORNEAL REFLEX IN ANESTHESIA.

Gardner[1] calls particular attention to the corneal reflex as the most valuable guide that we have in either chloroform or ether anesthesia. He believes that there are two principles for guides in the administration of anesthetics which are of inestimable value: The *respiratory* passages must be kept clear; the corneal reflex must never be abolished.

The airway must be kept clear because if the jaw is allowed to fall back, carrying the base of the tongue over the epiglottis and producing even moderate stertor, an element of asphyxia is introtroduced which more than doubles the danger of anesthetics.

The corneal reflex, which is produced by touching the centre of the patient's cornea, and by both watching and feeling the responsive clôsure of the upper eyelid, is one of the last primary reflex actions to become paralyzed. When this has been abolished the stage of dangerous anesthesia has been entered. It is, therefore, a comparatively simple matter to avoid danger by always retaining a trace of the corneal reflex.

The proper method of eliciting the corneal reflex in the anesthetized subject is to stand behind the patient and raise the margin of one of the upper eyelids by gently inserting the pulp of one finger only between the lids, then drawing the upper lid upwards with it till the cornea is well exposed to brush definitely against the centre of the cornea and edge of the upper lid with that finger and let go suddenly. Both by feeling and watching the brisk, moderately rapid, or slow responsive closure of the upper eyelid, the presence of the first, second, and third stage of narcosis is demonstrated. H. J. W.

EDITORIAL NOTES.

Dr. C. R. Holmes, who has been appointed consulting physician for the construction of the new Cincinnati Hospital, will leave shortly for the East for a general inspection of new hospitals.

Dr. Willy Merck, member or the celebrated drug firm of that name, has had the honor of having conferred upon him by the University of Halle, Germany, the degree of Doctor of Medicine, "in recognition of numerous meritorious contributions looking to the advancement of the therapeutic side of medicine."

Obituary.—Dr. Adolph Zipperlen, aged eighty-seven, after a short illness, on February 28, at his home, 219 Webster St., Cincinnati. Dr. Zipperlen was a graduate of the University of Wurtemberg, and after his graduation he emigrated to this country; he served with distinction during the Civil War as Surgeon to the One Hundred and Eighth Ohio Infantry. Since the war he has been engaged until of late years in the active practice of medicine in this city.

It is with great regret that the announcement is made of the death of Dr. Walter Christopher, of Chicago, on March 2, of heart failure. Dr. Christopher was well known and greatly beloved by a host of friends in this city. He was a graduate of the Medical College of Ohio, class of 1883, an interne in the Cincinnati Hospital, subsequently becoming Professor of Chemistry in his alma mater. In 1889 he accepted a professorship at Ann Arbor, leaving there for Chicago to devote himself to his chosen specialty, diseases of children.

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[1] British Medical Journal, February 4, 1905.

CINCINNATI HOSPITAL ANNUAL REPORT.—Superintendent Fehrenbatch has submitted his annual report to the Board of Public Service. During 1904 the hospital treated nearly two thousand more patients than during 1903. During the latter year the cost per patient was $0.9427 while during 1904 it was $0.8877, which is below that of any first-class hospital either in the United States or Canada. Daily average number of patients, 575, while the total number treated was 9,234. Deaths during year, 809. Total receipts, $216,603 96; expenses, $220.246.36, making a deficit of $3,642.40, which must be carried over to 1905. The Superintendent also makes a plea for additional buildings for the branch hospital for consumptives. There are housed in the present buildings 113, which is 43 more than their normal capacity.

THE Report of Department of Health of Dayton, O., for the year 1904 is as follows:

Total number of births, 2,012; boys, 1,018; girls, 994. Total number of deaths, 1,308; males, 697; females, 611; the death-rate being thirteen to the thousand of the population.

Contagious Diseases.—Smallpox, 176 cases, 22 deaths; measles, 278 cases, 1 death; scarlet fever, 64 cases, 3 deaths; diphtheria, 54 cases, 5 deaths; chickenpox, 49 cases, no deaths; typhoid fever, 27 cases, 17 deaths; tuberculosis, 176 deaths.

The smallpox cases were unusually severe and death-rate high. These cases occurred from January to July, no cases being reported since July. The total average cost per case was $102.93, with a total cost of $18,115.83.

Particular attention is called to the remarkably small number of typhoid fever cases, which is credited to the pure water supply, the water being frequently subjected to chemical analysis, both by the local and State chemist, the latter pronouncing it the very best in this State.

AT the annual election, held at the Literary Club Rooms, Monday evening, March 6, the following were chosen as officers of the Academy of Medicine for the ensuing year:

President—Dr. Magnus A. Tate.
First Vice-President—Dr. Robert Carothers.
Second Vice President—Dr. Alfred Gaither.
Secretary—Dr. S. E. Cone.
Treasurer—Dr. A. G. Drury.
Censor—Dr. E. Gustav Zinke.
Trustees—Drs. N. P. Dandridge, Jas. T. Heady and A. B. Isham.

On Some Relations of Medicine and Surgery to Jurisprudence.

C. Beck (*Medical Record*, February 11, 1905) says that the medical profession is a noble one, but that its members are apt to neglect their duties as citizens as far as they are not of a hygienic character, and their indifference to legal points is one of the most conspicuous sins of omission in this direction. The law requires of the physician only that he should exercise reasonable skill and knowledge, but disappointed or litigious patients often demand much more than this, and involve the practitioner in legal contests. The various complications and sequelæ occurring in the course of the treatment of fractures afford a fertile field for the dissatisfied, and the Roentgen ray has furnished a means of diagnosis and observation during the progress of these cases that cannot be disregarded, especially as it is beginning to find a place in the court room as well. The matter of giving professional testimony in accident cases is extremely important and requires good judgment to estimate the degree of disability, and to detect malingering. Complicated medico-legal questions also arise when chronic diseases like osteitis, arthritis deformans or malignant growths develop after an injury. M. A. B.

R. B. HALL, M.D.
J. M. WITHROW, M.D.

Obstetrics and Gynecology.

C. L. BONIFIELD, M.D.
M. A. TATE, M.D.

Cæsarean Section in Placenta Previa.

Richard Douglass (*American Medicine*, January, 1905) says that Lawson Tait, in a brief article published in the *Medical Record* in 1899, initiated the question of the justifiability of Cæsarean section in the management of placenta previa. From 1899 to April, 1903, Truesdale was able to collect only thirteen recorded cases, but since April, 1903, a number of cases have been reported.

In studying the question Douglass calls attention to this fact: Results prior to the aseptic era should not be considered; only modern methods can give us a reliable working basis for correct deductions. An attempt at a proper solution to this question may be gained by a study of the methods and results.

De Lee had 30 cases of placenta previa without a maternal death; Fry had 14 cases without a maternal death; Hirst collected 104 cases without a maternal death. In Sloane Maternity Hospital maternal mortality 30 per cent.; Boston Lying-in Hospital 75 cases, with a maternal mortality 10.16 per cent.; Strassman, 231 cases, with a maternal mortality 9.25 per cent.; Douglass, 10 cases, with a maternal mortality 20 per cent.

If the placenta be centrally located, according to Heffmeyer, Behm, Lombe and Strassman, the prognosis is three to eight times more serious. In other words, a range of mortality from 9 to 30 per cent. Dorland collected 88 cases—central attachment, maternal mortality $22^{8}/_{11}$ per cent.; Schauta, 50 cases, maternal mortality 18 per cent.

As to the infantile mortality, Douglass quotes as follows: Hirst, infantile mortality 50 per cent.; Sloane Maternity, 45 per cent.; Strassman, 265 cases, 61 per cent.; Schauta, 254 cases, 70 per cent.; Fry, 14 cases, 65 per cent.

These figures give us a maternal mortality of about 10 per cent. and a fetal mortality of 50 per cent.; and when the placenta is centrally attached maternal mortality of 20 per cent. and fetal 75 to 80 per cent.

Radtke, in his studies of 80 cases of placenta previa beyond the puerperium, found these very interesting facts—that 30 per cent were sterile, 23 per cent. had aborted at subsequent pregnancies; 57 per cent. of the 80 patients suffered from subsequent anemia, vertigo, headache, etc.

Deaver has collected 24 cases of Cæsarean section for placenta previa with a maternal mortality of 20 per cent. Some of these cases had unfavorable conditions, and so Douglass is convinced that the maternal mortality can be reduced to 10 per cent. and a fetal mortality to about 50 per cent. He says that Cæsarean section is indicated in cases of central attachment of the placenta in the primigravidia with an undilated and rigid cervix, with moderate hemorrhage, a viable child, and when the operator is a capable abdominal surgeon.

The contraindications to the operation are an exsanguinated patient or one who has been subject to various obstetric efforts, the presence or probability of infection, a dead fetus, and an unskilled operator.

Knowing the questionable propriety of Cæsarean section for placenta previa, and contemplating reporting the case before our local society, I wished to obtain the views of some of the leaders of obstetric and surgical thought upon this question, I sent the following telegram to fourteen different men:

"In placenta previa centralis; first pregnancy; child viable; compact woman; rigid cervix; free hemorrhage; surroundings favorable; would you endorse Cæsarean section? Kindly answer."

With the following answers, I rest the case:

"Conditions justify such action; best chances for mother and child."—Henry D. Fry.

"If child living do immediate Cæsarean section, otherwise forcible delivery for mother's sake."—W. R. Pryor.

"If you do Cæsarean section, put large drain of strong iodoform gauze from uterus down through cervix."—W. R. Pryor.

"Yes, would do Cæsarean section in interests of both mother and child, if very difficult to use colpeurynter."—Howard A. Kelly.

"I unhesitatingly advise Cæsarean section."—George H. Noble.

"Cæsarean section if cervix cannot be dilated without great danger; otherwise not."—J. Whitridge Williams.

"Believe Cæsarean section safest under conditions named, if patient not exsanguinated."—Charles P. Noble.

"Cæsarean section offers best chance of recovery."—Charles A. L. Reed.

"By all means, yes; have had a successful and easy case only lately."—Edward J. Ill.

"Yes, if surroundings are favorable, and if you will do the work."—L. H. Dunning.

"Certainly, if cervix very rigid."—Clarence J. Webster.

"Not as a rule, unless cervix very rigid, hemorrhage more than average, and version seems difficult."—B. C. Hirst.

"I do not favor Cæsarean section under the circumstances stated."—E. S. Lewis.

M. A. T.

P. S. CONNER, M.D.
J. C. OLIVER, M.D.

Surgery.

H. J. WHITACRE, M.D.
H. A. INGALLS, M. D.

Acid Intoxication in Surgical Conditions.

Kelly (*Annals of Surgery*, February 1905) reports observations on acid intoxications in 400 surgical cases. He includes under this term all of those cases which have been reported under the headings of acetonuria, acetonemia and aciduria, and has used as an index the appearance of acetone and diacetic acid in the urine. The urine was examined immediately upon entrance to the hospital, within twelve to forty-eight hours after the administration of a general anesthetic, again if at any subsequent time clinical signs suggested this condition, or if the urine showed the presence of acetone or diacetic acid.

Of the 400 cases observed, symptoms of acid intoxication were present in 46; in some of these grave symptoms were present, in others, excepting a slight odor of the breath, there was nothing clinical to suggest this condition, and in several acetone and diacetic acid were only discovered in the urine by routine examination on entrance.

The test used for determining the presence of acetone in the urine is as follows: To five cubic centimetres of urine are added a crystal of sodium nitroprussiate and sufficient sodium hydrate to render the solution strongly alkaline. This is thoroughly shaken up in a test-tube. On the addition of glacial acetic acid the presence of acetone is shown by the occurrence of a purple color in the foam. The presence of diacetic acid is shown by a Burgundy-red color appearing on the addition of a strongly aqueous solution of ferric chloride to the urine.

No quantitative examination of the urine was made in any of the cases of the series, but the amount was roughly determined by the depth of color occurring in making the qualitative tests.

Of the forty-six cases, acetone and diacetic acid, separately or combined, were found in the following conditions: eleven cases of appendicitis, fourteen of contusion and fracture, two of gastric disease, two of carcinoma, three of severe lacerated contused wounds, two of localized septic processes, two of cerebral concussion, one of salpingitis, one of acute multiple suppurative osteomyelitis, one of floating kidney, one of fecal fistula and enterocolitis, one of epilepsy, one of tuberculous cervical noditis, one of burns and typhoid fever, one of diabetic gangrene, one of hemorrhoids, and one of alcoholism.

In seventeen cases symptoms were present on entrance; in twelve cases, within twenty four hours after the administration of a general anesthetic, ether being used in ten cases and nitrous oxide in two cases; in seventeen cases symptoms were not present at time of entrance, but developed later without any anesthetic being administered, and for which no cause could be assigned. Acetone and diacetic acid were present in the urine at the same time in twenty-four instances; acetone alone was present in twenty cases; diacetic acid alone occurred in two cases; acetone, diacetic acid, and sugar were present together in three cases. In these forty-six cases there were six deaths.

After a review of the history of the condition and a brief discussion of the pathology of the condition which he considers as yet undertermined he deals with the symptoms and treatment.

Symptoms.—The first symptom to attract attention was a peculiar apathy. This was accompanied by a marked sweetish odor to the breath, a distaste for food, slight increase in temperature, and in most cases vomiting.

The odor to the breath was a peculiar, pungent, fleeting odor, or that of acetone, which at times suggested chloroform. In some cases it was very faint, in others so strong as to be noticeable quite a distance from the patient's bedside. The odor became so characteristic of the condition that it could be definitely stated from an observation of this symptom alone that the urine would show the presence of acetone and diacetic acid.

The vomiting would occur without apparent cause, would follow immediately upon taking anything into the stomach. In the mild cases it was colorless, copious, and watery in character, and in the severe cases was dark, bile-stained, of a "coffee-ground" appearance, and continued so until death. The pulse was increased in rapidity, of decreased tension, and in some cases became very weak. An absence of fever was noticeable excepting in severe cases, when the temperature would reach 102° to 103°. Alternating with the apathy there would be periods of restlessness, during which the patient required constant attention lest he fall out of bed or tear off his dressing. The face would be alternately pale or flushed, and at times expressive of considerable anxiety. In the fatal cases consciousness usually remained until near the end. From periods of restlessness, the patient would sink into a condition of stupor, or become delirious; the vomiting would cease, cyanosis generally occurring just before death, and the respiration and the pulse gradually failed, the latter often becoming imperceptible just before breathing ceased. Several cases complained of photophobia and dimness of vision, notably Case XL.

Treatment.—In the mild cases there was no special form of treatment adopted. In all feeding by mouth was prohibited, but nutrient enemata were given every four hours. In some cases bicarbonate of soda was given in large doses, with no marked relief, the urine remaining acid in spite of treatment. The best results were obtained by the use of adrenalin chloride. This was given subcutaneously every eight to twelve hours. In children about 200 c.c. of a 1:50,000 adrenalin saline solution, in adults 500 c.c. were used. The effect of this stimulation would last three or four hours. From a study of the cases it is impossible to say that any special treatment had any effect upon the condition present, and the results obtained depended upon stimulation and symptomatic treatment.

The detailed history of the forty-six cases observed, together with the bibliographic list, is appended. H. J. W.

Acute Hemorrhagic Pancreatitis; Operation and Recovery.

In view of the great interest manifested at the present time in pancreatic pathology the following case reported by Jones (*Lancet*, London, February 18, 1905) will be instructive.

The patient, a woman of twenty-six, who had previously suffered no symptoms of indigestion, colic nor jaundice, after a period of seven days of constipation, experienced a sudden severe pain in the abdomen while turning in bed as if "something had twisted." Pain became more severe, abdomen became distended, patient rapidly developed all the symptoms of intestinal obstruction. Pulse 128; temperature 96.2°. At the time of operation at least three pints of free fluid mixed with bright blood issued from the peritoneal cavity. After examining the pelvis for ruptured extra-uterine pregnancy areas of fat necrosis were found in the upper portion of the abdomen. The gastro-colic omentum was divided; pancreas, found to be three times its normal size, was discolored, edematous, and in places hemorrhagic. The lesser peritoneal cavity was emptied out and the pancreas was incised longitudinally; cavity was packed and drainage left in. The patient recovered promptly. This case illustrates beautifully the practical application of recent developments in pancreatic pathology.

H. J. W.

FIFTEEN grains of pyrogallic acid to one ounce of vaseline applied locally will cure ring-worm.—*Med. Summary.*

The Lancet-Clinic

A Weekly Journal of Medicine and Surgery.

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NEW SERIES VOL. LIV. MARCH 18, 1905. WHOLE VOLUME LXXXXIII

THE NITROUS OXIDE-ETHER SERIES BY MEANS OF A NEW INHALER.*

BY SAMUEL IGLAUER, B.S., M.D.,
CINCINNATI.

CHLOROFORM AND ETHER CONTRASTED.

Before attempting to extol the merits of the nitrous oxide—ether series, as a method of inducing and continuing anesthesia, it will be necessary to revive the question as to the superiority of ether over its old rival, chloroform.

Unless a strong indictment can be framed against chloroform, there is no necessity for the "gas-ether series," for all are agreed that chloroform requires the simplest of inhalers, that it is not very unpleasant to take, that it is not very irritating to the respiratory tract, that the first stage of its inhalation is not attended with much excitement, and that the transition from one stage to the other is easy and gradual.

Aside from these virtues, however, chloroform must suffer in comparison with ether. In the first place, the danger of death on the operating-table is much greater with chloroform than with ether. Hewitt's[1] combined statistics, covering over a million administrations, show that for every 3,162 inhalations of chloroform one results fatally; while the ratio for ether is one in 16,302. He concludes that "ether is roughly more than five times as safe as chloroform." Many of these fatalities (about one-third) with chloroform occur before the operation has begun, and there is no more harrowing experience for the surgeon.

Ether is a cardiac stimulant, chloroform a heart depressant. Respiration with ether is usually stimulated and audible, with chloroform it is often very shallow. This led a surgeon who was changing from chloroform to ether to remark that "the patient breathes easier, and so does the surgeon, when this change is made."

The zone of safety, *i.e.*, the margin between the physiologic and the lethal dose, is much narrower with chloroform than with ether. According to Cushing[3] a mixture of chloroform and air greater than 1½ per cent. by volume is dangerous. With ether the safe percentage runs as high as 6 per cent. If the anesthetist oversteps this safe limit with chloroform, the effects are more immediate and disastrous than they are with ether. Therefore, in the hands of the novice (and in our hospitals the most inexperienced man is usually entrusted with the anesthetic), chloroform is much more dangerous than ether.

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* Read before the Academy of Medicine of Cincinnati.

Chloroform syncope often comes on with scarcely any warning, the pulse failing almost as soon as the respirations cease. With ether there is usually ample warning. The signs are those of impending asphyxia, the heart continuing to beat for some time after respiration fails.

In a recent discussion of this subject Dr. W. Mayo[4] facetiously remarked: "We have for years preferred ether to chloroform, even though there may be just as many deaths from ether as from chloroform. When a fatal result does occur the patient has a much better chance to bid good-bye to his friends than if he died from chloroform anesthesia."

The anesthetist is much more helpless in the presence of chloroform syncope, for it is evident that artificial respiration is apt to be more effective with the respiratory failure of ether than in the associated cardiac failure of chloroform.

The advocates of chloroform claim that the after-effects of ether are more severe than those of its less volatile rival.

Post-operative pneumonia probably is less frequent with chloroform than with ether, and pulmonary lesions are the chief contraindication for the latter.

Drummond[5] has analyzed eight cases of ether pneumonia, and notes the relation between painful laparotomy wounds, consequent restricted diaphragmatic action, and pneumonia.

In an exhaustive review of the subject Holmes[6] concludes "that if pneumonia is more liable to follow the use of ether than it is of chloroform, which is at least a question, the difference is so slight that it does not begin to counteract the much greater danger with which the administration of the latter is associated."

According to the recent report of Mikulicz,[7] we must modify our views concerning these pneumonias, since he proves that they are not due so much to the inhalation of anesthetics, as to the nature of the operations themselves. His elaborate and instructive tables show that pneumonia has complicated more of his operations conducted under cocaine anesthesia than operations of the same kind performed under general anesthesia.

It has been asserted that ether is more toxic in its effects on the kidneys, but experiments on animals show that prolonged inhalation of chloroform produces fatty degeneration not only in the kidneys and liver, but also in the heart itself. With ether these changes could not be produced.[8]

Clinical reports on this subject are at variance, but it seems certain that ether produces less intense and more transient effects upon these organs than does chloroform (Mikulicz, *op. cit.*).

Post-operative vomiting and nausea are less intense with ether than with chloroform,[9] and this is reasonable, since the lower boiling point of ether ensures its more rapid elimination from the body. On this theory we can explain the absence of vomiting after inhaling the more volatile substances, nitrous oxide, ethyl bromide, or ethyl chloride.

CONCLUSION.

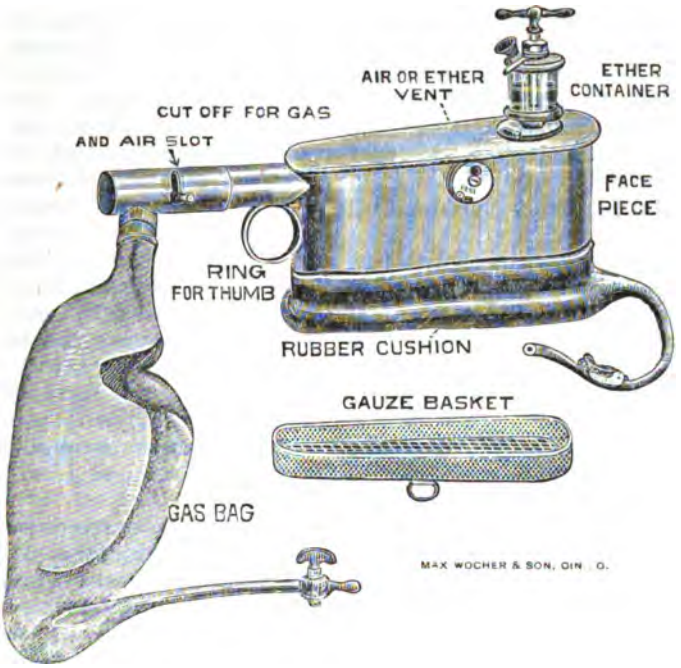
After this brief comparison I believe it can be stated with certainty that ether should be the anesthetic of choice in the vast majority of instances. This rule, according to Bennet[10] and Kopetsky,[11] applies also to children, for whom, quite erroneously, chloroform is regarded as the better choice. Ether is contraindicated only in cases with pulmonary lesions, respiratory obstruction, and in marked arterio-sclerosis.

THE NITROUS OXIDE-ETHER SERIES.

The patient objects to ether chiefly on account of the intense feeling of suffocation attendant upon its inhalation. The surgeon dislikes the excitement and struggle of the first stage. This is especially objectionable in a patient already exhausted by disease, or in one who is to undergo a prolonged operation.

These and other considerations led Clover, in 1876, to devise his inhaler for the administration of nitrous oxide followed by ether. This method, then, is not a new one, and is used to a marked extent in Great Britain. In this country, chiefly owing to the efforts of Bennet,[12] Goldan,[13] Carter,[14] and Gwathmey,[15] and others, it has in recent years been used to a considerable extent in the Eastern hospitals. At the present time it seems to be making its way into Germany.[16]

Laughing gas is by far the safest anesthetic known. Its mortality ratio[17] is probably one in 750,000. Its inhalation is not at all unpleasant, and the patient involuntarily breathes deeper and deeper. There is usually not the least excitement or struggle. Unconsciousness ensues within a minute. At this time ether can safely be administered in conjunction with, and following, the gas. The patient passes directly from nitrous oxide to complete ether anesthesia, thus eliminating the first and worst stage of etherization.



Combined Oxide-Ether Inhaler.

DESCRIPTION OF INHALER.

The apparatus that I wish to present this evening is one that I have devised for the nitrous oxide-ether series. In its simplified form it consists of a closed, accurately fitting metal face-piece, provided with an inflated rubber cushion. Within the face-piece is a wire basket for the gauze. Upon the top of the face-piece is a detachable glass and metal ether container from which the ether can be fed at will (modified after Brown). A short Y-piece of metal tubing telescopes at one end with the face-piece. To the other end of this tubing a large rubber bag for the nitrous oxide is attached. A small lever projects through an air slot in the tube and controls an obturator valve, which prevents the nitrous oxide from escaping before it is desired. This is the only valve in the apparatus, and acts simply as a cut-off. On the sides of the face-piece are two openings through which ether or air may be admitted if necessary. A large thumb-ring enables the anesthetist to hold the inhaler and to support the angle of the patient's jaw with one hand, leaving the other hand free. A three-way valve, modified after Goldan,[18] may be employed instead of the simple obturator valve described above. Goldan's valve is only necessary, however, when gas alone is to be given.

This inhaler combines the qualities of compactness, lightness and convertibility. It may be used either as an open or closed inhaler. All the metal parts can be sterilized by boiling, the rubber parts can be cleansed with alcohol. The inhaler may also be employed for ethyl-bromide as well as for ethyl-chloride.

I am much indebted to Max Wocher & Son for the care displayed in the construction of this inhaler.

USE OF THE INHALER.

To induce anesthesia with this inhaler: Fill the wire basket with gauze, fill (nearly) the ether container with ether. Inflate the rubber bag with nitrous oxide from a cylinder containing the gas. Place the patient in a recumbent posture. Instruct him to breathe through the mouth. Adjust the face-piece and allow him to breathe air through the air-slot until he becomes calm and reassured. Now turn the lever, which, while freeing the nitrous oxide, at the same time shuts off the air supply. The patient now breathes the gas back and forth into the bag. (It may now be necessary to partially refill the bag with gas, although usually one bag-full suffices.)

After about forty seconds' inhalation of the nitrous oxide the patient will be under its influence, as evidenced by loss of control of voluntary muscles (patient cannot open the eye on command), by more or less cyanosis, by slightly stertorous breathing, and by an insensitive cornea. It is not advisable to carry the patient into very deep gas narcosis.

At this time turn the lever of the ether container and allow about two drachms of ether to flow upon the gauze. The patient now breathes a mixture of ether and nitrous oxide to and fro into the bag. (As a rule, no gas is added after the ether is turned on.)

At the end of about a minute's time, or if the breathing becomes stertorous, remove the inhaler and allow the patient a breath of air. Readjust the face-piece and allow the ether to feed slowly, about a drachm at a time. Within two to three minutes complete ether anesthesia will ensue, the patient passing directly into the third stage of ether narcosis, usually without the least excitement or struggle. The operation may now be begun.

During this time the patient has been re-breathing the same vapor mixed with carbon dioxide from his own lungs, together with an occasional breath of air. This air-restriction method constitutes the close system of etherization as advised by Clover, Hewitt, Bennet, Goldan, Gwathmey and others. I shall mention its advantages later on.

The large rubber bag is now removed, and a smaller, thinner one is slid into the face-piece. Ether is continuously added as needed, the patient breathing to and fro into the rubber bag. Sufficient air must be admitted to prevent cyanosis or asphyxial phenomena.

REPORT OF CASES.

I now have notes on a series of sixty-two cases in which I have either given or directed the anesthetic with this inhaler.* It has been employed in various classes of operations, including major as well as minor surgery. In most of these cases anesthesia was rapidly induced, usually within four minutes. In contradistinction to the usual scene, but three patients required any restraint while being anesthetized, and two of these were alcoholics. I failed to produce an even transition from gas to ether in four cases. The presence of a beard or sunken cheeks interfere, as they allow too much leakage of gas. This can be obviated by wetting the beard, or by surrounding the base of the face-piece with a moist towel.

The operations included various operations. The majority were laparotomies. Next in number were adenectomies. Patients' ages ranged from four to seventy-three years.

All of these narcoses proceeded without any trouble which could be attributed to the anesthetic itself. Three of the patients held the breath for some time when the ether was turned on, but none of these required more than a few slaps on the chest to start the breathing.

Vomiting during the anesthetic was noted but twice. In one case I allowed the patient to come out of the gas to wash out her mouth and then again began with the anesthetization.

Cyanosis was noted in thirteen of the

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* Since the above was written this apparatus has been used on numerous occasions in various hospitals. Dr. F. U. Hollingshead informs me that it has been used between 125 to 150 times at Christ's Hospital; Dr. O. D. Barker reports about 90 administrations at the Jewish Hospital; Dr. C. F. Maertz reports 50 cases; Dr. H. Ellis, at the Good Samaritan Hospital, reports about 25 anesthesias; Dr. L. S. Colter reports 40 cases, and the writer has had about the same number of additional cases. These, with the 62 reported in the paper, make up a total of about 430 cases. Among these cases one ether pneumonia is reported. No fatalities attributable to the anesthetic have occurred.

cases, one patient having a severe mitral lesion. All of these were controlled by admitting air. Sometimes the bag was removed, thus changing to the open method.

The quantity of ether used by this method is from one-half to one-third that required with the open cone.[17] The carbon dioxide exhaled by the patient has anesthetic properties of its own, and complements the ether, rendering less of the latter substance necessary. Besides this, with the open cone it usually requires more ether to induce than to continue the narcosis.

There is, however, a certain fallacy in the argument that the patient receives less ether by the closed than by other methods; for, breathing into a bag, he receives the same dose over and over again, while with an open cone new quantities of ether are constantly added to replace those lost by diffusion into the atmosphere.

It is claimed for this method that post-anesthetic nausea and vomiting are less common than with the usual technique of etherization. Many of the patients did not vomit at all.

The following disastrous complications ensued:

One patient who was on the table over two hours, and who had gall-stones and a pancreatic abscess, developed a hypostatic congestion of the lungs from which he recovered, but he died on the thirteenth day from fat necrosis.

Two cases suffered from pulmonary embolism, one on the twelfth, and one fatal case on the eighteenth day. Since Albanus[20] has shown that this occurred in 20 per cent. of over 1,000 laparotomies, there is probably no relation between the anesthetic and this complication.

CONCLUSIONS.

The disadvantages of the nitrous oxide-ether series are:

1. The necessity for special appliances of a somewhat complicated nature. This tends to limit its use to general hospitals. Nevertheless, this apparatus is easily portable, and I have frequently carried it into the home.

2. It requires a knowledge of the signs of nitrous oxide and of ether anesthesia. This, with our present woeful lack of practical istruction in this branch in our colleges, will prevent the inexperienced from using it as a routine measure. The merits, however, by far outweigh all the drawbacks.

The advantages may be enumerated as follows:

1. The two safest anesthetics known are employed in series.

2. It may be employed as a routine measure in almost any class of operations.

3. Unconsciousness and anesthesia are induced so rapidly that the patient has no unpleasant recollections of the inhalation.

4. Struggling, excitement, choking and initial vomiting are eliminated.

5. By inducing anesthesia with nitrous oxide the patient does not require saturation with the large quantities of ether, otherwise employed in the first stages of etherization.

6. Less ether is used during the operation. This is advantageous for the patient, and the saving in cost to hospitals is a considerable item.

7. The patient breathing same warmed ether to and fro, suffers less from refrigeration and is therefore less liable to pneumonia.

8. With the air restriction method deep anesthesia is more readily maintained. Should the patient come out he can be brought under again with much greater ease and rapidity than with the open method.

9. By simply pulling the rubber bag off the inhaler we can change at will from the close to the open system.

10. In clinical amphitheatre work the patient can be narcotized at any desired time, and need not be subjected to the unjustifiable procedure of being anesthetized for some time prior to the operation.

11. The atmosphere of the operating-room is not saturated with ether fumes.

12. Recovery from the anesthetic is rapid.

13. Nausea, vomiting and headache are less intense after the operation.

Finally, it is a time-tried method, recommended by most of the leading anesthetists, and yields gratifying results to those who employ it.

BIBLIOGRAPHY.

1. HEWITT, F. W. "Anesthetics and their Administration," McMillan & Co., 1901.

2. Ibidem.

3. CUSHING. "Pharmacology," text-book.

4. MAYO, W. Discussing Mellish's paper, see below.

5. **Drummond, D.** British Medical Journal, October 4, 1898.

6. **Holmes, L. E.** N. Y. Medical Journal, March 19, 1904.

7. **Mikulicz, J. V.** Deutsche Klinik, etc., Bd. viii, 22 Lief.

8. Citations in Kocher, Chirurgische Operationslehre, iv Auflage.

9. **Mellish, M.D.** Journal American Medical Association, December 5 and 12, 1903.

10. **Bennet, T. L.** Archives of Pediatrics, April, 1904.

11. **Kopetsky, S. J.** Medical Record, October 3, 1903.

12. **Bennett, T. L.** N. Y. Medical Record, March 24, 1900.

13. **Goldan, S. O.** N. Y. Medical Journal, August 5, 1899.

14. **Carter, H. W.** Medical Record, April 14, 1900.

15. **Gwathmey, J.** Medical Record, April 11, 1903.

16. **Kronig:** Münch. Med. Woch., October 20, 1903.

17. **Buchanan, C. M.** Medical News, Vol. lxii, April, 1893.

18. **Goldan, S. O.** Dental Cosmos, January, 1902.

19. **Carter.** Op. cit.

20. **Albanus, G.** Beitrage zur Klin. Chirurgie, Tübingen, xli. Ref., Journal American Medical Association, January 30, 1904.

21. **Bennet, T. L.** Laryngoscope, April, 1903.

DISCUSSION.

Dr. H. Stowe Garlick: I have been very much interested in the paper which Dr. Iglauer has presented this evening. I have seen the doctor use this method of inducing anesthesia on one of my mastoid cases, and was very much pleased with it. The anesthesia proceeded just as he has described it to-night. The patient went under much easier than with the usual method, and with little or no struggling. The anesthesia also could be controlled, allowing the change of anesthetics or methods of administration at will, and without interference to the operation, which is an advantage that the doctor did not mention in his paper. The small amount of the ether used was quite a surprise to me. The patient came out from under the anesthetic with very little vomiting or other disagreeable sensations. This experience was of great satisfaction to me, and I hope to try this method on other patients in the future.

Dr. Joseph Ransohoff: From the experience which I have had with this method of inducing anesthesia, I feel that I want to use it all the time. We have had a good deal of expeence with it at the Jewish Hospital, and the internes there are now qualified to use this method. In the hands of the inexperienced it is not an easy method. It is a great deal easier for the novice to give chloroform, and, of course, with greater danger to the patient, than it is to give this series of anesthetics. I have had experiences with internes who used the ether before the patient was completely under the influence of the nitrous oxide, and with disastrous effects; but when it is given properly patients pass directly from the nitrous oxide into the ether anesthesia without any excitement.

The whole subject of anesthesia is too great to take up in one evening, but I could not help but feel, in thinking of the death-rates following ether and chloroform, that perhaps a great deal of injustice had been done to the one and the other as to the fatalities following their use. Statistics as to the matter of deaths following the use of anesthetics are to me notably untrustworthy. In the first place, I believe that a large number of deaths occur that never are recorded, and, furthermore, very many cases of death are attributed to the anesthetic which in reality ought never to be attributed to it. Take, for example, a death said to be caused from the use of chloroform. The individual is put under the influence of chloroform, and an operation lasting an hour or an hour and a half, in a part of the body abundantly supplied with large veins, and if that patient, at the end of the hour, or whatever time it may be, dies, his death is attributed to the chloroform. The surgeon himself, when death occurs under such circumstances, really believes that the patient died from the chloroform. In such a case I think the proof entirely lacking that the patient died from the chloroform. The only cases which can truly be attributed to chloroform are those in which death occurs before the knife has been put to the patient. I believe in only about one-third of the cases where death is attributed to chloroform that such is actually the case. Those are clear chloroform deaths. If an operation should be performed for an ordinary hernia, for example, and twelve days thereafter (the dressings having been entirely removed) the patient drops dead, such a death would in all probability not be ascribed to chloroform; but if the patient had died during the operation the death would undoubtedly have been ascribed to the chloroform, whereas the death might have occurred from some other cause. I feel, of course, that chloroform is the most dangerous anesthetic, and therefore rarely give it. I think possibly we are not as careful in the administration of chloroform as we might be. I recall one case in which death occurred in a patient to whom chloroform was being given before the operation had been commenced. By some singularly unfortunate accident the anesthetist allowed the cork in the chloroform bottle to drop out so that the mask was saturated with chloroform all at once, and very quickly thereafter the patient succumbed. Now that death ought not to be charged to chloroform. When ether is given in the ordinary way no one can question that it is a very unpleasant anesthetic. That it is more dangerous in producing pneumonia I have my serious doubts. Mikulicz is not the only one who has called attention to the fact that cocaine anesthesia is followed as often by pneumonia as is ether. I have used a great deal of cocaine in my work, and I have not had any cases of pneumonia following its use except in one very old case which I operated upon for strangulated hernia.

I am very glad Dr. Iglauer has called attention to this greatly improved way of administering ether by the closed method. When ether is given by the old method, not only is the patient at times deluged with the ether vapor, but the air in the room becomes so charged with it that the surgeon is oftentimes very unpleasantly affected by it. At times I have been so much affected by it that I have felt as though I must quit and have my assistants do the latter part of the operation. I consider this method of Dr. Iglauer's an ideal way of inducing anesthesia, and next to cocaine, which, of course, is most applicable to the great majority of cases. It is ideal providing it can be taught, but it is an exceedingly difficult way of administering anesthesia in the hands of the novice. The man who is practicing in the country and has to give an anesthetic once every two or three months will probably not learn to handle this instrument in a very satisfactory way. In the hospitals of the larger cities, and even in some of the smaller cities where a good deal of operative work is done, this is the ideal way of administering an anesthetic, but I do not believe that it will supplant the other methods in vogue all these years. Personally, I like it better than any other method, and I can recommend it very highly indeed. I have felt perfectly comfortable about the cases upon which I have used it; especially so as I was sure of the man behind the gun— Dr. Iglauer.

Dr. A. H. Freiberg: I was unfortunate this evening in not arriving here in time to hear the paper of the evening, but I have seen the essayist administer the anesthetic by this method a number of times. I must say that in his hands it has proven to be an ideal way of administering ether. The whole subject reminds me of my own experience with ether anesthesia. In 1893 I was in London and I saw a great many ether administrations. The method then prevailing there (and I suppose it still is in a modified form) was by means of the Clover inhaler. The patients seemed to go off so nicely that it impressed me as the ideal method, and I had made up my mind to buy a Clover inhaler to bring home with me. Then I had the misfortune to have an accident which resulted in a dislocated left shoulder, and in order to reduce it I had to be given an anesthetic by means of the Clover inhaler. This occurred in London. After my personal experience with the inhaler I was more delighted with it than ever. I experienced no disagreeable sensations in the administration by this inhaler in any way. I purchased a Clover inhaler before coming home and used it whenever I got a chance after my arrival here. I thought at that time that I was bringing something new to Cincinnati, but I ran across one operator who had been using it for some time, and it was not long before I had an opportunity to see it used under his orders. But it was used without the rubber bag; in other words, all that was characteristic of the Clover inhaler, all that was worth a pinch of powder was taken away from it, and this man was using it in that way. Then I started to use it whenever I came in contact with hospital work. One was purchased for the Jewish Hospital shortly after that, and I had mine at the Cincinnati Hospital. I found every interne who used it, although shown how to use it, had some personal modification to make. It was never used right until I got hold of it again, and it always acted beautifully when used as it should be used. I recall only one instance in which it failed to produce anesthesia quickly and without struggling, and in that case the patient was an immense negro who was strongly addicted to drink. It seems to me that we have about the same state of affairs in the use of Dr. Iglauer's instrument. I have seen this same inhaler, admirable in every way if used properly, used without success because it was not correctly used, because it did not seem worth while for the individual who used it to observe carefully the smaller details involved in administering the anesthetic by this means. It seems to me that the Clover inhaler is an admirable means of inducing ether anesthesia, and there is no better way of having a Clover inhaler than by means of this apparatus. Unless one had had the opportunity of seeing the anesthetic administered by this method and taken the trouble to observe the details of its administration, which must not be overlooked, the anesthesia will be unsatisfactory. I think that this is an important point involved in the use of a number of inhalers. Probably each one had its good points and could be used with success if the details of its workings are carried out, but if used in the wrong way of course the results obtained will be very unsatisfactory.

Dr. J. Henry Schroeder: Whenever this subject of anesthesia is considered, attention is usually called to the fact that a great cause of danger lies in the use of impure anesthetics. In a recent article Williams called attention to the fact that ether is more frequently obtained in an impure state than chloroform. There is no reason why chloroform and ether cannot be obtained in a pure form in every drug-store in the country. Manufacturers put up these drugs which can be obtained in the original packages from any druggist. There is one writer who has cautioned against the use of sulphur*ous* ether instead of sulphuric ether. I do not know sulphurous ether; even sulphuric ether is a misnomer.

Another thing, we all know the annoyance caused by the vomiting after the administration of an anesthetic. Some years ago I prepared a mixture of menthol and chloroform, with the idea of obviating the vomiting. It was given to a patient who had been operated upon four or five times before under chloroform anesthesia, and each time she had vomited after its use. After using the mixture above spoken of, she did not vomit, but the interne who gave the anesthetic did; in fact, he was sick in bed for the rest of the day.

Dr. Samuel Rothenberg: Probably one of the best features of Dr. Iglauer's inhaler, or of any such inhalers, is the complication of details required to make it work properly. This will call the attention of those who wish to administer this form of anesthetic to the necessity for care in giving anesthetics, and will probably do away with a great deal of the lack of care used in giving chloroform and ether. It has been the custom heretofore to have an inexperienced interne or student just out of college slap a mask over the face of the patient, with no thought on his part of the dangers involved. One objection which I have found to this inhaler (I do not know whether this appertains to any of the others or not) is that when you wish to give ether by the closed method you cannot accomplish this on account of the immense accumulation of saliva, and you constantly have to take the mask off to cleanse out the mouth. In fact, you are unable to maintain the closed method on this account. I have had this experience in one or two cases in which Dr. Iglauer has given the anesthetic by this method for me.

Dr. Horace J. Whitacre: I have given this subject some attention, and would like to give my experience with this method of anesthesia as advocated by Dr. Iglauer. I purchased one of these inhalers and have used it in practically all my operative cases recently, with varying degrees of satisfaction. I have found, as Dr. Ransohoff has said, that the method is not a perfectly easy and simple one, and that it requires quite a considerable degree of experience in order to administer it correctly. My first experience with the method was not satisfactory—in fact, I wanted to sell my inhaler—but after a few suggestions from Dr. Iglauer I had better results in the next few cases, and now in all cases when the anesthetic is given by a man who will take the pains to follow out the instructions as given by Dr. Iglauer the results have been so uniformly satisfactory that I want to use it on all of my patients. It almost uniformly places the patient under the influence of the anesthetic and renders him perfectly unconscious before the ether is turned on in full concentration. The patient usually passes at once into the ether anesthesia without struggling, but this is not invariably the case. I find that some patients will struggle to some extent. This occurs usually in patients who have a beard, or in old persons who have thin cheeks in which we cannot maintain the nitrous oxide gas in its pure state in the cone free from an admixture of outside air. I should like to have Dr. Iglauer tell us some method of overcoming this difficulty. The amount of ether used by this method is very small. It makes a great deal of difference in this method who gives the anesthetic. We have some internes who do not care particularly about the method, and they do not succeed very well. With a man who is careful in giving the anesthetic two or three ounces of ether will be sufficient for an operation lasting for an hour or more, and the anesthesia will be perfectly satisfactory throughout. I thoroughly believe in ether anesthesia, and make it a rule to give it unless there are some contraindications, and there are practically none.

I can say that after a thorough understanding of the method that the inhaler of Dr. Iglauer is perfectly satisfactory, and that I shall continue its use in all of my cases.

Dr Magnus A. Tate: As is the case of many of our discussions, we talk about something else than the subject brought before us. To night is no exception to that rule. The subject to be discussed is nitrous oxide ether anesthesia. I have not seen it administered by Dr. Iglauer, but the last time I was in New York, some four or five years ago, they were using it extensively there. Bennett was using it, and a great many of the patients upon whom I saw it used had a stage of marked excitement preceding the changing to ether. This may have been due to the fact that they did not have an instrument perfected as is that of Dr. Iglauer for the administration of the anesthetic. I have seen anesthetics given here a great many times as well as elsewhere, and it has always been my impression that it is not the anesthetic used so much as it is the man who is giving it. The previous speaker spoke about the man in the country not being able to give anesthetics in the proper way, but my impression from observation is that he can give them better than the majority of our internes.

In England at the present time they use ether, and in some places the A C E mixture; in Germany and Austria, like our country, some use chloroform, some use ether. The place in which they give anesthetics the best of which I have any knowledge is right here in Cincinnati, and that, I think, is due to the teaching of Dr. Reamy. He taught a great many how to give anesthetics, especially the administration of ether. In our institutions the student is taught how to make a laparotomy, something that he very rarely has the opportunity to make (even if so inclined), and he is never taught anything more than what he can get in a half-hour lecture about anesthetics and their administration. He is supposed to imbibe it from seeing internes administer it. This subject should be thoroughly taught to every student and opportunities given to administer it under some competent person. So far as I know, New York City can justly claim the honor of giving anesthetics in a more careless manner than in any large city that I have been in. This statement refers to the internes, who have so much egotism that they think no one outside of New York knows anything about giving anesthetics.

Dr. W. E. Schenck: I congratulate Dr. Iglauer upon the sense of this Academy in giving his second paper the kindly reception which it has. His first paper, as many here to night will recall. was received with much condemnation by this scientific body. I am glad to see that he has done such good missionary work, and that our surgeons are beginning to appreciate the value of this method of inducing anesthesia. I had the honor of introducing the instrument of Dr. Bennett in this locality, upon which Dr. Iglauer has made some very valuable improvements. His apparatus seems to be simpler, but I have not had the opportunity of using it up to the present time.

When I was in London, in 1896, I had the honor, through the courtesy of Mr. Victor Horsley, to be the guest of the Neurological Society of England, upon which occasion Dr. Waller gave a demonstration of the influence of anesthetics upon the peripheral nerves. He demonstrated that nitrous oxide was the safest anesthetic because of the almost instantaneous recovery of the nerve after its use. Next to that he used ether, and he found that after a longer time than with the nitrous oxide gas the nerve responded to electric stimulation. Last, he used chloroform, and in cases where he anesthetized the peripheral nerve with this agent it did not return to its normal state by electrical stimulation. Then he made a demonstration upon a peripheral nerve with carbon dioxide and chloroform, which, after electrical stimulation, returned to the normal state. Seeing these demonstrations impressed me with the fact that an anesthetic could be made safer by combining it with CO_2, and when I returned home I used the plan of covering the mask with my hand, allowing patients to breathe their own breath mixed with chloroform over and over again, and in that way I got CO_2 mixed with the chloroform, and I never had any unpleasant effects from it. In one instance I was called in where there had been too much chloroform given, and it required ten minutes' stimulation to get respiration started again. After this was re-established I pursued my plan of giving the chloroform and the operation was completed without any bad results.

How does nitrous oxide-ether act? The nitrous oxide causes a rapid anesthetization of the mucous membranes so that the ether vapor does not irritate them, nor cause the excited state as when pure ether is used. It is not necessary to give sufficient nitrous oxide to anesthetize the patient; all that is necessary is to give sufficient to anesthetize the mucous membranes, and this in most instances is usually accomplished in four inhalations of the nitrous oxide, and then the ether is turned on gradually, mixing with the nitrous oxide, and then later with ether alone. I have no cyanosis. You will have it, however, if you push the nitrous oxide. I have seen patients get blue, and to those unaccustomed to seeing this it will cause some apprehension, but I have never seen any untoward results following nitrous oxide anesthesia even when pushed this far. It is not necessary, however, to carry it that far, as Dr. Sanders can attest. After four breaths of the nitrous oxide the ether is usually turned on.

It has been mentioned this evening that it is a clumsy and technical apparatus On the other hand, it is a very simple apparatus; it has but very few valves connected with it, and five minutes' careful examination will make you as familiar with its manipulation as months of experience with it would do. I have seen it given in New York, and while there I had the honor of seeing Dr. Stimson operate, and I was a witness as to the manner of giving anesthetics there by the internes. In that respect I want to say that the internes in New York are the best anesthetists I have seen. They understand it thoroughly, and are taught by Dr. Bennett how to give it. I saw this myself three years ago. The internes are expert physiologists, as all doctors should be in order that they may appreciate the danger of giving anesthetics.

The secretion of saliva in such quantities as to cause annoyance has been spoken of by one gentleman. I have rarely experienced any trouble of this kind, this depending entirely upon how much nitrous oxide you give. I have found it a very small matter to use a towel and wipe away the saliva from the mouth, and thus prevent it from accumulating. If it should come to the point where it rattles in the throat, by turning the head to one side this is relieved. Oftentimes by keeping the patient prone on the back the tongue will fall back and breathing become somewhat stertorous, so it is best to turn the head to either side.

When I first began to produce this form of anesthesia in this city it was very amusing to me to watch the expressions on the faces of those observing the giving of the anesthetic. When the patient came to the cyanotic period they were considerably frightened, but they had enough confidence not to interfere, and when the ether was given and they passed under its influence and the patient was ready for operation in a short time, before the surgeon was ready, the expression on their faces changed, and they all thought it was the finest thing they had ever seen. The period required to produce complete anesthesia with this method in the majority of cases is two minutes.

As to the expense of the anesthetic, in an ordinary surgical case in which it is desirous to have the anesthesia last for forty-five to fifty minutes, the anesthetic would cost about sixteen cents, six and two thirds cents for the nitrous oxide and nine and three-eighths cents for the ether, two ounces of the latter being considered sufficient for such an anesthesia.

It has been mentioned that arterio-sclerosis and cardiac affections are contraindications for the use of nitrous oxide. I recall a case in which Dr. B. F. Miller called me to give an anesthetic. The woman was about sixty years of age and had a sarcoma of the mamma. She had an irregular intermittent pulse and chloroform was contraindicated. I gave her the nitrous oxide and in a short time the pulse became normal, the irregularity and intermittence disappearing. The anesthetic was given for forty-five minutes, and after its withdrawal the pulse again became intermittent and irregular, demonstrating the stimulating or regulating effect upon the heart.

Dr. Ransohoff: I would like to correct the statement made by one of the previous speakers in reference to the opportunities given in this city to students for the study of anesthesia and its inducement. There is not a man in the graduating class of the Ohio Medical College who does not have an opportunity of seeing anesthetics given and of giving them himself if he cares so to do. This has been going on for quite a number of years. The student gives anesthetics quite as often as he chooses to do so.

Dr. Charles Maertz: My experience with Dr. Iglauer's inhaler has been limited to about fifteen cases. Most of these anesthesias were given under his supervision. The last six I gave alone, and they were all successful. Complete anesthesia was induced within three minutes in five of my cases. In one case it required five minutes, as I did not give enough gas, but by pushing the ether a little the patient was completely anesthetized within five minutes. Although this patient struggled some, she afterward told me that she remembered nothing after the second or third inhalation of gas. Three other patients that had taken it were highly pleased with it. Two of them had taken anesthetics before (one had taken ether and the other chloroform) and both say that they recalled nothing unpleasant about this method. As illustrating the small amount of ether given with this inhaler, permit me to briefly mention one of my cases as an example. A laparotomy patient weighed 340 pounds; in all I gave this patient six and one-fourth ounces of ether in two hours and twenty minutes, during the last hour administering only one and a half ounces. I allowed this patient considerable air because there was a tendency to cyanosis. I intend to continue the use of this method of inducing anesthesia because of my great satisfaction with it.

Dr. Robert Carothers: The paper this evening is most interesting and the reader is entitled to to no little credit for the work he has done in its preparation. I want to say, however, one word for an old friend that is in trouble, and would seem to-night to be passing away—Ether Anesthesia. All that has been said of nitrous oxide-ether can in many cases be said of straight ether. I have myself repeatedly been able to induce complete anesthesia in five minutes with ether. In one case, a young robust German girl, in three minutes I had induced complete anesthesia, so that operative work on the conjunctiva could proceed without causing pain. The object, I think, to be obtained is that the anesthetizer should be thoroughly acquainted with the patient, have his or her implicit confidence, be alone with the patient in a quiet room, undisturbed by noises or talking, so that before and during the earlier stages of anesthesia the anesthetizer can explain what is expected of and to the patient, and give words of encouragement as the anesthetist proceeds. In this way time can be saved, less ether used, and a great amount of the unpleasant features can be obviated. I do not think, for convenience and safety, in private houses and hospital—in fact, at any and all times—anything yet has taken the place of straight ether given within a paper and towel cone.

Dr. S. P. Kramer: I have had some little experience with nitrous oxide anesthesia. If one prefer ether as a routine anesthetic, which I do not, I think the best way to give it is with the nitrous oxide beforehand. But we must not grow hysterical about the benefits to be obtained by this method; we must realize that it does only one thing—it does away with the first stage of anesthesia. When it does all that we desire it only prevents the stage of excitement. There is no proof that it diminishes vomiting, there is no proof that it diminishes the dangers of anesthesia, there is no proof that any of the other manifestations occasionally associated with the ordinary anesthesias are done away with in the use of this method; it simply prevents in most cases the period of excitement, and that is a factor of some importance.

There are two classes of cases, however, in which the use of nitrous oxide anesthesia is probably contraindicatnd. First, in cases where hemorrhage is a factor in obstructing the field of operation. It is better not to use it because nitrous oxide means cyanosis, and that means a heightened blood pressure, with an increased hemorrhage. For the same reason it should not be used, in my judgment, in cases of arteriosclerosis.

Dr. Iglauer: Dr Garlick has spoken of the use of this method in operations on the head. In such operations it will occasionally be necessary to remove the rubber bag and allow the patient large quantities of air in order to diminish the venous engorgement of the head, which otherwise might interfere with the operation.

Dr. Ransohoff is quite correct in stating that this is not an easy method for the beginner. When I first tried it, having had no instruction in this method, I found it rather difficult to judge of all the signs at the proper time, but as I proceeded the process grew easier. The doctor questions the value of mortality statistics. After all that is said and done in medical, as well as political science, one must often fall back on statistics, and those I have given this evening are the best that I could find, and they gain weight since they are the combined statistics of over a million administrations.

Concerning death during anesthesia, it seems to me that this may occur any time during an operation. If we can rule out some definite cause for the death, such as pulmonary embolism, shock, and the like, then we must attribute the death to the anesthetic itself, no matter what time it occurs during the operation. The case where the cork dropped out of the chloroform bottle, and the patient died, was indeed more of an accident than a chloroform death.

The doctor has mentioned the annoying ether fumes in the operating-room when ether is given by the ordinary method, and contrasts with the closed system, where there is very little odor of ether detected in the operating-room. It seems to me that our students in colleges could advantageously be instructed in administering anesthetics by administering them to animals, and studying the physiological as well as the toxic effect on the lower animals. In this way they would be better prepared for giving anesthetics as soon as they leave college.

Dr. Freiberg has described the "Clover" method, and with the inhaler mentioned this evening practically the same method may be employed, and the apparatus is simpler than the original Clover. In common with him I have occasionally found it somewhat difficult to interest internes in these methods, and find that many of them are prone to introduce slight modifications.

Dr. Rothenberg has stated that there is excessive salivation when employing the closed method. While I am not certain that this is the case, still salivation may be overcome by extending the patient's head and turning it to one side so that the saliva will run down the mouth, or by mopping out the pharynx with gauze pledgets; or, if necessary, by the hypodermic administration of small doses of atropine prior to or during narcosis.

I agree with Dr. Schroeder that we should be sure of the purity of our anesthetics.

I am indebted to Dr. Whitacre for having persisted in using this inhaler when it did not seem to work very satisfactorily at the very start, and I am glad to learn that he is now pleased with his results. The doctor has asked how to prevent the admixture of outside air when the patient has a beard or sunken cheeks. This can be overcome by moistening the beard or by surrounding the base of the cone with a wet towel. This is rather important, as too much leakage prevents the proper carrying out of this method.

Dr. Tate has spoken of "Bennet's method" of administering anesthectics, and says he has seen patients undergo a state of marked excitement. Bennet himself makes but little mention of such excitement, and most of the other writers on the same subject have little difficulty from the struggling of the patient. In the case of alcoholics the gas sometimes produces violent movements, and dentists have told me that an alcoholic patient to whom gas is given, may sometimes get up and wreck the whole office. I see no particular reason why internes in New York should not give anesthetics as well as anywhere else in the country, and from the few I have seen administered in that city I cannot see any difference in the care from that bestowed elsewhere.

Dr. Schenck is a pioneer in nitrous oxide-ether anesthesia, and, as I know, is a firm advocate of this method. Notwithstanding the physiologic experiments cited by him, I should prefer to give chloroform with the free admixture of air, since it has been shown that a too high percentage by volume of chloroform is very dangerous. As the doctor states, one can introduce nitrous oxide anesthesia with a very small quantity of the gas, provided one allows the patient to re-breathe the same gas several times. It is certainly advisable not to push the nitrous oxide too far.

Dr. Carothers has spoken of the necessity of reassuring the patient before giving an anesthetic. With the method advocated this evening it is found that unconsciousness ensues so rapidly that even the most nervous patient almost immediately becomes anesthetized. In many cases the patient can be narcotized on the operating-table itself, thus doing away with the necessity of lifting the patient from the stretcher to the table.

My experience corresponds closely with that of Dr. Maertz. He is certainly to be congratulated upon the success with which he anesthetized the patient weighing 340 pounds.

There are more merits to this form of anesthesia than Dr. Kramer attributes to it. Not only does it do away with the first stage of anesthesia, but it requires much less ether to maintain anesthesia than with the open cone; therefore, the patient is less saturated with the ether, and in the experience of all anesthetists there is less nausea afterwards. One would expect smaller doses of ether to produce fewer toxic effects in general. The doctor has spoken of the influence of nitrous oxide anesthesia upon hemorrhage. It is true that nitrous oxide alone does increase venous hemorrhage, but we are advocating ether after the nitrous oxide, so any hemorrhage that may occur is due to the ether and not to the nitrous oxide. Great caution, as has been stated, must be observed in cases of arterio-sclerosis.

As regards the safety of this method, Bennet[21] writes: "It adds no element of danger unless abused, but probably actually lessens the risk of ether through the avoidance of the stage of rigidity, struggling and excitement."

CÆSAREAN SECTION.*

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Three phases only of Cæsarean section are herein presented, viz.: (1) The lessened mortality which has been secured with the successive improvements in technique; (2) indications for the operation, with report of two cases; (3) precautions to be taken to secure the best possible results.

Nowhere in the domain of surgery are the advantages of modern aseptic technique better illustrated than in the evolution of this operation. The mortality-rate has been gradually reduced by successive improvements, including asepsis, and still further reduction of the death-rate may be secured by earlier diagnosis of the necessity for the operation.

From the first Cæsarean section, by Jacob Nufer, in 1500, until the last quarter of the nineteenth century, during which time there were comparatively few operations, the uterus was not sutured after the operation. Hernias and troublesome adhesions were frequent and the mortality was very high. Lebas is said to have been the first to suture the uterine incision; this he did in 1769, but he was criticised by the leading obstetricians and surgeons of his day, who used no sutures, assuming that the uterine contractions would approximate the edges of the incision. Some sutured the edges of the uterus to the abdominal wound.

To Sanger belongs the credit of successfully suturing the uterine incision and of otherwise perfecting the aseptic technique. He pointed out the danger of the escape of clots and placental shreds into the peritoneal cavity and of a prolonged operation. He recommended the elevation of the uterus out of the abdominal cavity and closure with two rows of sutures, one muscular, the other peritoneal of musculo-peritoneal.

As late as 1876, when Porro introduced supra-vaginal hysterectomy after removal of the fetus, the practice of leaving the uterine incision unsutured was still in vogue and was condemmed by this author. Webster says that in Paris, during half a century, there was not a successful case of Cæsarean section, although it had been performed about sixty times, and in the large maternity hospitals of Paris and Vienna, with 4,000 to 8,000 confinements in a year, not a single successful case of

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Cæsarean section had been recorded. Of the early operations, Burns reports 24 cases with 22 deaths. In England, at that time accoucheurs very generally condemned the operation. Up to 1870 embryotomy was universally practiced in preference to Cæsarean section. However, Harris reports 133 cases in 1888 from American literature, with only 37 per cent. of recoveries. Of 1,605 cases collected by Mayer in 1868, the per cent. of recoveries was but 54. From that time until the present, with successive improvements in aseptic methods, the mortality has been gradually lessened. Under a more perfected technique and better antiseptic methods, the mortality in selected lists has been greatly reduced by a few operators, under the most favorable circumstances, to 4 per cent.

In the last published report of the Lying-in Hospital of the city of New York, which covers a period of six years ending 1897, with a service of 10,233 obstetric cases, two Cæsarean sections were performed, one by Dr. Markoe for deformed pelvis, both mother and child surviving. The other case, by Dr. Edgar, labor being obstructed by a fibroid tumor of the lower uterine segment, breech presentation, hydramnios, anencephalus, with suppression of urine, the mother dying forty-eight hours post-partum. In these 10,233 cases, symphyseotomy was performed six and craniotomy three times. Dr. E. B. Cragin, in charge of the Sloane Maternity Hospital, has during the last five years performed 26 Cæsarean sections with the death of two mothers, one of these being nearly moribund from carcinoma, with child dead and lacerated, but with the vagina blocked with the carcinoma. The other death resulted from unexpected embolus. During the same period Dr. Cragin performed three symphseotomies with one death from infection. the children all being delivered alive. Dr. Barton Cooke Hirst reports, by letter, thirty-five Cæsarean sections with five deaths, the deaths being in cases brought in the ambulance to the hospital in bad condition. He says that he has not performed craniotomy on a living child for ten or fifteen years, except in cases of hydrocephalus. In the Chicago Lying-in Hospital and in the dispensary attached to it, where about 1,200 labors are cared for annually, six Cæsarean sections and two symphyseotomies have been done in the last five years, one woman dying; all the children lived. During the same time five craniotomies were performed, one on a living child and four on dead children. In his own practice Dr. DeLee, surgeon to the above hospital, has performed nine Cæsarean sections with one maternal death.

The following cases occurred recently in the service of the writer, both ambulance cases:

CASE I

Mrs. A. was taken in labor July 7 of this year, at 1 o'clock A.M., the first stage of labor being completed at 11 o'clock. Instruments were applied by Dr. W. M. T. S. Simms, the attending physician, about 2 P.M., and again about 4 P.M., without avail. I saw her in consultation at 7 o'clock of the same evening. The head had not engaged in the brim of the pelvis, contractions were regular at five-minute intervals. The position was occipito-left-anterior. From the evident contraction of the pelvis it seemed clear that any further effort at instrumental delivery was useless and would endanger the life of the child and mother, yet to satisfy myself and the friends I applied the instruments, high forceps application, and was soon satisfied that the child could not be thus delivered. The patient was at once sent to Mercy Hospital, prepared for operation and a Cæsarean section performed at 9 o'clock that evening. I was assisted by Dr. D. G. Sanor and Dr. W. M. T. S. Simms.

An incision was made through the abdominal wall about seven inches in length, extending to the left of the umbilicus; the uterus was drawn well into the wound, but not entirely out through the abdominal opening; a mesial incision through the fundus and anterior uterine wall was made. As is usual in dorso-anterior positions, the placenta was attached posteriorly. There was little difficulty in controlling the bleeding. Packing about the uterus preventing the escape of liquor amnii into the abdominal cavity. The membranes were opened, the hand passed into the amniotic sac beneath the buttock and the child turned out, the assistant compressing both broad ligaments with his hands to prevent bleeding, and, as the child was removed, pressing gently upon the sides of the uterus as it contracted. The cord was clamped and severed, and the living child turned over to the nurse for resuscitation. The hand was introduced, the placenta readily peeled off and lifted out of the uterine cavity. There was very little hemorrhage, the inner surface of the uterus presenting a smooth, grayish appearance. The uterus being compressed with hot sponges and slightly elevated by a large sponge beneath, but not removed from the abominal cavity, the uterine wound was closed with two rows of interrupted catgut sutures, and the peritoneum, with edges slightly inverted, closed in the usual way with catgut. The abdomen was closed with catgut and subcuticular silkworm-gut suture. The patient made uninterrupted recovery, not knowing herself that the Cæsarean section had been performed until eight days afterwards, when the stitch was removed. Her temperature never rose above 100° and the patient sat up on the fifteenth day, and was dismissed from the hospital Auguust 15. Both mother and child are living.

The tubes were not removed, as the patient had not given her consent for this procedure and the degree of contraction does not preclude the possibility of the birth of a small child. She has been advised to have a premature delivery at about seven or seven and one-half months in case she again becomes pregnant. The child weighed seven pounds and fourteen ounces, the cephalic measurements being: Bitemporal, $3^1/_{10}$ inches; biparietal, $3\frac{1}{2}$ inches; bimastoid, 3 inches; occipito-frontal, $4\frac{1}{2}$ inches; sub-occipito-bregmatic, $3\frac{1}{2}$ inches.

Maternal measurements: External conjugate, 6.63 inches; true conjugate, 2.99, or about 3 inches; interspinous, 22 cm.—8.5 inches; basiliac, 27 cm., or 10.5 inches; intertrochantric, 31 cm.; external oblique diagonal, 17.5 cm.—6.85 inches; bisischiac, 8 cm.—3 inches. These are the outward evidences of a flat contracted pelvis with a very pronounced sacral prominence.

CASE II.

Mrs. B., aged twenty-four, in her first labor. She was small of stature, belonging to a rachitic family. A sister has a marked curvature of the spine. The week preceding labor albumin had been found in the urine. Labor began at 6 A. M., September 28, of this year, the first stage lasting twenty-one hours; the second stage beginning at 3 A. M., Thursday morning, the 29th. The physicians in charge, Drs. J. A. Riebel and A. A. Peasley, recognized the contracted pelvis, but thought there was chance for instrumental delivery. Instruments were applied about 9 o'clock of the same day, and after several unsuccessful attempts at delivery the patient was sent to the Protestant Hospital. Measurements were taken of the pelvis showing that the conjugate diameter, as nearly as could be determined, was three inches, interspinous diameter eight and one-half inches. The child was living, as revealed by fetal heart beats and active movements; the abdomen large, the uterine mass high up in the abdomen. After consultation with the husband in reference to the condition and with his approval, Cæsarean section was determined upon and performed about 3 o'clock that afternoon. I was assisted in the operation by Drs. Riebel, Peasley, and the house physicians. The improved Sanger operation was performed, an incision seven inches in length, extending one-third of its length above umbilicus, was made. The uterus opened well toward the fundus. The placenta was found attached to the anterior superior wall of the uterus. Through a small opening the hand was passed readily along the side of the detached placenta and the feet of the child secured and the delivery readily effected. The child was living, but its head was injured by compression and it died twelve hours after birth. Considerable hemorrhage occurred, but not an excessive amount. The assistant pressing the broad ligaments readily checked further hemorrhage. The uterus contracted readily. The uterine wall was sutured by two rows of interrupted No. 1 catgut and the peritoneum closed with No. 0 interrupted suture. The abdomen was readily cleansed of the small amount of blood which escaped into it and closed in the usual way with interrupted catgut sutures and subcuticular silkworm. No effort was made to remove the tubes, as the size of the pelvis did not preclude the possibility of the birth of a seven months' child, and for the additional reason that the exhaustion was such that we considered that their removal would entail additional delay and shock. The pulse at the beginning of operation was

130, at conclusion 180 and somewhat irregular. The patient rallied from the anesthetic and appeared in fair way for recovery. But there was almost a complete suppression of urine, weak irregular pulse and absence of normal peristalsis of the bowels; fever developed and the patient died at 6 o'clock the following day, about twenty-six hours after the operation.

Measurements of child: Bitemporal, 3¾ inches; sub-occipito-bregmatic, 3½ inches; bimastoid, 3 inches; occipito-frontal, 4½ inches; occipito-mental, 3½ inches; biacrominal, 5½ inches; length, 20½ inches; weight of child, 11¾ pounds twelve hours after death.

As to indications, Cæsarean section may be considered in all cases, under permissible circumstances, in which the outlet of the bony pelvis is so contracted that forceps delivery of a child is impossible, and especially in cases in which the degree of contraction or deformity is such as to render a craniotomy dangerous on account of the liability of injuring the maternal parts.

If the smallest diameter is less than two or two and one-half inches, there is absolute indication for Cæsarean section, which holds good whether the fetus is alive or not. Advanced carcinomatous degeneration of the cervix may also be regarded as an absolute indication.

Garrigues gives the following as absolute indications: "When the fetus, even after craniotomy, cannot pass the genital canal, or when the disproportion between the fetus and the canal is so great that delivery through the normal passage would entail greater dangers to the mother than Cæsarean section, and tumors that cannot be replaced or diminished."

"The relative indication obtains," says the same author, "when the smallest diameter measures between 2½ and 3 inches, (5 and 8 centimetres), but is restricted to certain conditions: (1) The fetus must be alive, viable, and not materially deformed. A hydrocephalic fetus, for instance, should be diminished by craniotomy. (2) The mother must be in good condition. Labor must not have been too protracted, say not over twenty-four hours. The case must have been treated with antiseptic and aseptic precautions, and it must be reasonably sure that no infection has taken place. (3) The accoucheur must explain to the patient that unless something is done both she and her child are lost. If it is a favorable case, he may in good conscience tell her that it is nearly certain that the child will be saved and that her own risk is small provided Cæsarean section is resorted to without delay."

Cæsarean section should be the operation of choice, according to Williams, for all cases with a conjugate 3 inches (8.5 cm.) for flat and 3½ inches (9 cm.) for justo-minor pelves in which the head fails to engage in the brim. These indications cannot be regarded as certain guides on account of the variability of size and plasticity of the head. Hence, with a conjugate of about 3 inches it is well to be prepared for section, permitting, however, labor to go on for an hour or more in the second stage. If the head can then be made to engage with high forceps or otherwise the labor may be terminated with instruments; otherwise, if the woman be uninfected, Cæsarean section may be carried out. In such cases Williams holds that Cæsarean section offers life to the child without appreciably raising the maternal death-rate.

Every practitioner, says Dr. Reed, of this city, should be able to form a fair estimate of the amount of contraction, as it is easier to measure a contracted pelvis than a normal one, and it does not require a highly skilled obstetrician to say, before labor has commenced, or during the early stage of the process, that the diameter of the pelvis is, or is not, less than three inches; and, as a matter of fact, such diagnosis should be within the skill of the ordinary practitioner. Not only must he be able to form an estimate of the amount of contraction, but by patient study of normal cases he should qualify himself to form an opinion as to whether it will be possible for a living child to pass, and also whether, under the difficult circumstances in which he may be placed, it would not be better to send the patient where Cæsarean section could be resorted to in case it seems advisable.

In all cases in which a fair trial with high forceps or with the best form of axis traction forceps and Walcher position has been made, child living, Cæsarean section, the or in suitable cases symphyseotomy, should be done rather than craniotomy. Experience shows that section performed late in labor subjects the woman and child to more risk than when performed early. As to the relative dangers to the mother in Cæsarean section and craniotomy, Webster says: "Cæsarean section is probably as safe for the mother as is embryotomy, and has the advantage of saving the fetus in the great majority of cases. Pinard has reported a maternal mortality of 11.5 per cent. in eighty-one embryotomies, some of the deaths, however, being due to trauma and sepsis resulting from manipulations of practicians before admission to his service."

Dr. J. Clifton Logan, attending obstetrician to the Emergency Department of Bellevue Hospital, says: "Craniotomy upon the living fetus is not performed at this hospital service, Cæsarean section being the operation chosen. He conceives in the opinion that craniotomy upon the living fetus is frequently performed in the country districts at some distance from a medical centre."

Dr. J. B. DeLee, Medical Director of the Chicago Lying-in Hospital and Dispensary, says that Cæsarean section is rarely performed at the Cook County Hospital, because the cases that are sent in there for delivery are so mutilated that it is thought best to deliver by craniotomy, and that in the last few years a number of such operations have been performed. He says that he has found it necessary to sacrifice several children when, owing to persistent attempts at instrumental delivery or the presence of sepsis, they thought this to be the best way of delivering the patient. In his own opinion, craniotomy is still performed too often in general obstetric practice, or, if not craniotomy, then forced forceps operations, which are worse for the mother than craniotomy and result in the delivery of a dead infant. "They are," says the same author, "due to a lack of obstetric knowledge, and lack of clinical teaching, and lack of appreciation, both by the public and the profession, of the high skill requisite for the proper practice of the obstetrical art."

The high mortality in the past, and even at the present time, is no doubt due in a large measure to undue delay in performing the operation; not infrequently instrumental delivery is persisted in under chloroform for several hours, during which the patient becomes very much exhausted. Patients should be carefully examined in the later months of pregnancy, pelvic measurements being taken, and in all cases of contracted pelvis provision should be made for the operation, if it become necessary, and in all cases in which it is plainly evident that the living child cannot be borne such patients should be placed in a hospital for confinement, and here the operation should be performed at the onset of labor and even before it begins. A professional friend told me that he witnessed three Cæsarean sections in one day's clinic at a Vienna hospital, operation being done before labor came on.

In this day of hospitals, ambulance transportation, and trained nurses to prepare the home for patients who cannot be moved, circumstances can be rendered favorable for almost all cases. An early diagnosis of a contracted or rachitic pelvis should secure for any woman hospital care in the last weeks of gestation. With these cases a diagnosis having been made, operative procedure should be planned and carried out before the patient becomes exhausted by labor. The great majority are within easy reach of hospitals even after labor has begun, and, besides, with trained nurses and a little time fair conveniences may be improvised in many a home remote from hospitals, thus reducing to a very small number the possible emergencies in which one is reduced to the necessity of sacrificing the child to save the mother, which, of course, is to be done in all cases if one must decide between the two. Such cases there doubtless still will be, but their number will gradually decrease with the increasing facilities of civilization, the enlightenment of public sentiment, and improvements in surgical technique.

In this brief paper I have not attempted to give the differential indications between Cæsarean section and the various other operations, as celiohysterectomy, symphyseotomy, embryotomy, cranioclasis, etc., but have attempted rather to show that the results of experience commend this operation as a conservator of human life, that its success depends largely upon its being anticipated and carried out at the proper time, and that there is need of educating the public to an appreciation of the importance of calling in the family physician early to look after all women during gestation.

CONCLUSIONS.

1. The public should be educated to a better appreciation of the importance of proper obstetric care during gestation and at the time of confinement.

2. The profession should insist upon preliminary examinations to determine the probable dangers connected with each case.

3. All cases presenting absolute indications should be provided with hospital care and operated upon at, or just before, the onset of labor.

4. In cases with relative indications, due preparation should be made for all possible emergencies, either in the home or at the hospital, and if operation be determined upon it should be carried out before the patient has become exhausted by prolonged labor, narcosis, and use of instruments.

THE RADICAL CURE OF INGUINAL HERNIA.*

BY AUGUST SCHACHNER, M D.,
LOUISVILLE, KY.,
Surgeon to Louisville City Hospital.

In the light of our present knowledge of hernial surgery should the medical profession advise operating or trussing? This question is pressing itself more and more upon the profession, and only when we consider the percentage of hernias occurring upon one hand and the tremendous strides that have been made in the operative cure upon the other hand, can we realize the necessity of dealing with this question without further delay.

Prior to the introduction of the Bassini operation, there was no procedure known to surgery worthy of the expression of radical cure. Therefore, up to that time it was quite proper that the best advice should be trussing as the first and best resort.

The Bassini operation has been before the profession for about two decades, certainly long enough to have passed its probationary period. Its merits can be judged best by a study of the results. Coley (*Annals of Surgery*, Vol. xxxvii, page 806) reported 937 cases with 11 relapses, or a little over 1 per cent., and a mortality in 1,075 cases of two deaths, or less than one-fifth of 1 per cent. At Carle's clinic, in Rome, there were two deaths in 1,400 operations on 1,285 patients.

Although it is true that these are the best statistics by the best operators, and it would be unfair to overlook personal equation, it must, however, be admitted that the Bassini operation does not represent a specially difficult operation, and there are no reasons why the results of competent and careful operators with even a moderate experience should not be almost as good as the above.

Contrast this with trussing. How many individuals are wearing a truss that does not truss? How many individuals are capable of judging if a truss is really performing its functions? The answers to these questions are found in the number of strangulated hernias that come to the surgeon with the history of having worn a truss, and the number of cases that come to both practitioner and surgeon with large and troublesome hernias, that at one time were small and did not give any trouble but became large through imperfect or insufficient trussing. Add to this insufficiency that attends a very large per cent. of trussing, an element of discomfort and the exclusion from certain occupations and exercises, and last, but not least, an operation of necessity in many cases at the end of it all, and at a time when conditions are not favorable for the best results, and then the question of trussing decides itself.

After all, it resolves itself into a question of education; as soon as the public and the profession realize the meaning of trussing as it is usually practiced on the one hand, and the significance of the radical cure on the other hand, we will see in hernial surgery a repetition of what has occurred in the surgery of the appendix.

The truss, which before the time of the Bassini operation was quite properly given the first place, is, since the Bassini operation, given the second place. Instead of an operation becoming the last resort, it is now the first resort. Trussing will be restricted to the very young, in whom, if carefully employed, there is a chance for cure; the very old or those so afflicted as to place them beyond the pale of surgery; and lastly, those that have been operated upon and recurred, since experience has demonstrated two facts—first, that a recurrence is more difficult of operation than a fresh case; and second, a case that has been operated upon is more amenable to a truss than one that has not been operated.

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* Read before the Ohio Valley Medical Association, Evansville, Ind., November 9–10, 1904.

Certainly, nowhere in surgery can we find to-day two such propositions in which one offers as much and the other as little, and in which the one that offers the least finds an almost general acceptance and that which offers the most an exceptional acceptance, as we do in connection with hernias, and all of which is bound to reverse with a better understanding of the conditions.

ANATOMY.

Recent investigations by Turck, of Chicago, have suggested that the attachment of the internal oblique to Poupart's ligament is not the same in both sexes. In the female it arises from the outer four-fifths, whereas in the male it occupies the outer two-thirds of Poupart's ligament. This, together with the size of the cord as compared with the ligament, explains the difference in the size of the internal ring as well as that of the cleft, and represents the principal anatomical reason for the greater frequency of inguinal hernia in the male over the female. It is reasonable to suppose that the internal oblique would in the absence of either cord or ligament take its origin from the entire Poupart's ligament, since the so-called inguinal canal is nothing more than an elevation of the lower fibres of principally the internal oblique to facilitate the passage of the cord or ligament, as the case may be. In the absence of the cord or ligament there would be no canal, so-called, and what is now a weak point in the muscular arrangement of the trunk would become a relatively strong point. The anatomical nomenclature of inguinal hernia would be improved by referring to the inguinal canal as a cleft, since it is more a separation of the lowermost fibres of the internal oblique and transversalis upwards from Poupart's ligament than it is a true canal. In the operative cure we bring these fibres down to where they would have been if they would not have been displaced to make way for the cord or ligament rather than the obliteration of any true canal.

THE BASSINI OPERATION.

The steps in the typical Bassini operation are:

1. An incision parallel with Poupart's ligament and about one inch above. This incision extends from the external to the internal ring, and in depth to the aponeurosis of the external oblique muscle.
2. An incision dividing the external oblique and laying bare the inguinal cleft, which in hernial subjects contains the cord and the herinal sac.
3. Separation and ligation of the hernial sac.
4. Obliteration of the inguinal cleft by suturing the conjoined tendon to the posterior surface of the Poupart ligament.
5. Dropping the cord upon this line of suture and re-uniting the aponeurosis of the external oblique.
6. Uniting skin and fascia.

Since the introduction of the Bassini operation, many modifications dealing with one or another detail of the operation have been advanced, but in none of these operations has the basic principle advanced by Bassini undergone any material change. These modifications are almost too numerous to mention, and therefore the principal ones only are taken up in an anatomical order from within outward.

Sac.—The usual ligation of the sac has been modified by Halstead, by over-correcting and suturing the peritoneum as in an ordinary laparotomy. This, by the same surgeon, has again undergone modification, in that the sac is ligated and then drawn outward and fastened on the under surface of the internal oblique muscle. McEwen folded the sac upon itself and used it as a buttress to entirely overcome the depression or dimple, as the case may be, that results from the ligation of the sac. This occupies a point corresponding to the internal ring, and plays an important rôle in the causation in the original hernia or in its recurrence.

It was believed by many that only by pressure made upon the external peritoneal surface could this peritoneal dimple or depression be effaced. Many believe that, however much so-called over-correction as originally advocated by Halstead is practiced, there still remains a slight depression. The objections that have been urged against what seems an excellent idea of McEwen, if not an excellent method, are that the anchoring of the folded sac in the exact location is not an easy matter; and, secondly, the unfolded sac has frequently insufficient nourishment, and consequently sloughs. Kocher modified the treatment of the sac by drawing it out through a small opening in the external oblique aponeurosis at a point corresponding to the internal ring, twisting the sac upon itself and burying it along a line corresponding to the inguinal cleft. The external oblique upon each side of the twisted sac is sutured over the sac, and in this manner the twisted sac is used to depress and obliterate the inguinal cleft. This, however, like McEwen's idea, has not been received favorably by surgeons in general.

Still another method of dealing with the hernial sac is the application of a purse-string suture, introduced either on the outside or the inside of the neck of the sac. The use of the suture instead of the ligature has the advantages of not slipping off, overcoming slough of the portion of the sac beyond the ligature, and of a more accurate method of its closure. The internal application is preferable, inasmuch as it allows the closure to occur more directly under ocular inspection.

Internal Ring.—Since the cord starts outward at the internal ring, this point is necessarily not only the beginning of the hernia, but likewise the invariable place at which recurrence first manifests itself. For this reason the internal ring has always received the greatest attention at the hands of both investigators and operators. The brunt of the force from within is always spent at this point, and unless this point gives way first the cleft will always be found intact.

Some surgeons recommend, in addition to the suturing of the conjoined tendon, the additional suture of the transversalis fascia. This, however, has not been generally considered by surgeons as either necessary or feasible in the average cases. Halstead has attempted to fortify this vulnerable point by the resection of all the veins of the cord, excepting three or four, and in this way, by reducing the size of the cord, correspondingly reducing the opening and strengthening the wall. The objection to this modification is that the ring suffers but slight reduction in size, and the integrity of the testicle is endangered beyond the good which might be derived. Therefore, since atrophy of the testicle has occurred in a number of instances, this step has virtually become a dead letter.

Coley has called attention to the importance of placing one or two sutures above the cord, so as to protect the opening in an upward direction. The suturing of the conjoined tendon is decidedly most important at this point, and if properly performed re-occurrence will be impossible, even though the balance of the cleft does not receive the same perfect closure. All slack should be taken up and all sutures should be given a liberal purchase in order that a snug and secure closure may be effected. It has also been recommended to bring the cord directly out through all the muscular layers, including the external oblique. This, however, is a step backward, for the maintenance of the obliquity of the cleft is a strong element in not only the strength of the region, but also in the prevention of the recurrence of the hernia. The region corresponding to the internal ring is of such importance and its satisfactory closure so difficult that many surgeons—Fowler, Dawbam and others—have endeavored to obliterate the ring entirely and bring the cord out at the external ring without traversing any special cleft created by the operation. The suggestions of both Dawbam and Fowler have their advantages in special cases, but will hardly ever be accepted as uniform procedures.

The Cord.—The cord, like the ring, has been subjected to different forms of treatment. Halstead practiced its reduction in size, as already pointed out. Bull and others have in certain cases practiced placing it behind the muscles instead of in front, or superficial to them. This is important in certain recurrences, as well as in certain cases of undescended testicle. Fowler places the cord behind the peritoneal cavity, which is likewise a splendid idea in certain cases complicated with undescended testicles, but as a regular procedure is open to the objection that it necessitates division of the posterior wall.

The Inguinal Cleft.—This has been closed in different ways, either interrupted or mattress sutures and with different varieties of suture material. Some have objected to the mattress suture on the ground of causing possibly a division of the muscular fibres. This criticism will hardly hold, if the sutures are carefully and properly introduced. Experience has abundantly proven that the best suture material is the kangaroo tendon in strands of moderate size.

By far the most important modification that has been suggested in the closure of the cleft is the method of imbrication or overlapping, as suggested by Dr. Andrews. This principle has not only been of importance in the cure of inguinal hernia, but of equal value in the cure of umbilical hernia, as pointed out by Mayo. In the Andrews operation we have not only the apposition of broad surfaces, but also overlapping surfaces. In addition to this, we have all three of the large abdominal muscles behind the cord instead of the two inner ones behind, and the external muscle in front. This is undoubtedly the most valuable addition that has yet been made to hernial surgery since the Bassini operation.

The modifications which have been most satisfactory in the writer's experience were the purse-string suture in lieu of the ligature in dealing with the sac, and the Andrews method of closing the inguinal cleft by imbrication. The Bassini operation thus modified has not been attended by any relapses in the writer's experience, and has supplied what we think the best operation for the radical cure of hernia.

DISCUSSION.

Dr. Eastman: The subject of the radical cure of hernia is one of ever-increasing interest. As the doctor intimates, we are beginning the general operations and have our patients submit to radical operations in hernia just as in gall-stone diseases and tumors. And a doctor does missionary work when he comes before a body like this and agitates such a measure and points out the easy way with which the results are obtained, and the large proportion of cases in which results are obtained.

The doctor said something about a proper-fitting truss. Personally, I do not know what a proper-fitting truss is. If there was ever such a thing made it has not come to my knowledge. I suppose that a properly-fitting truss is one which holds the intestines in the proper place. Just so sure as we have a truss that plugs the opening up sufficiently tight to keep the intestines and viscera back, so sure it will be plugged tight enough to distend the opening, which will increase every day that truss is worn with sufficient tightness. I have a patient now that is waiting until we can dispose of a cancer of the intestines to have this hernia sewed up. The opening you can now get your fist through. He has worn a large truss six or seven months in order to keep the viscera back. There are several different methods of procedure. One is the Andrews method. I have found that catgut is a fine thing to use. I have used it many times and I have no reason for changing. I think there is a tendency to use catgut that will last in the tissues too long. Ten days' catgut is good enough for me, and we find that we get better results.

Dr. Dixon: I think that the remarks that the doctor has made in regard to trusses are absosolutely true, and if he had been on the board to examine pensioners as I have been he would realize it more than ever. We come across a case of this kind most every day. The trouble is the trusses do not truss, and, as Dr. Eastman has said, many cases grow worse. The longer they wear the truss the worse the hernia gets. I think this paper was an excellent one, and this gentleman deserves a great deal of credit for bringing the subject before us in the manner in which he has brought it. He didn't mention the modification of the Andrews operation. I think it is called the Ferguson operation. Dr. Mayo uses this method. In this operation the cleft is not distended at all. It is almost like the Andrews operation except they do not use mattress sutures. I should just like to speak on this. Most people tie this too tight. If they do they have lots of trouble. Most ordinary physicians do not have a case a day like the doctors in large cities do, and those that do not often forget from one time until the next, and they are apt to tie the sutures too tight, and just as sure as this is done there will be trouble. I have been there. As Dr. Eastman has said, I like the ordinary catgut. I find that this is excellent. But I do wish to make this point again, that the man like myself that does not have a case of this often must be careful not to draw these sutures too tight.

The announcement is made that Dr. J. MacDonald, Jr., has purchased all rights to the *American Journal of Surgery and Gynecology*, which, beginning with the April number, will be issued from New York as the *American Journal of Surgery*, with the following editorial staff: Robt. T. Morris, Howard Lilienthal, J. P. Tuttle, Jas. T. McKernan, Samuel G. Gant, Augustin H. Goelet, C. Wendell Phillips, Ferdinand C. Valentine, and others.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, MARCH 18, 1905.

THE SCIENTIFIC AND TEACHING PHASE OF OUR NEW HOSPITAL.

Many questions of vital interest to the medical profession will arise during the next few months with the development of plans and a policy for the new Cincinnati Hospital.

There is one side of the hospital question which should perhaps stand uppermost in the minds of the profession of this city, namely, the teaching phase. The layman and the lay members in the Executive Board will look carefully after that function of a city hospital which deals with the comfortable housing, feeding, nursing, and the medical and surgical treatment of patients. The layman is too apt to think that these are the only functions of a city hospital and give slight encouragement to the teaching of medical students in the wards and to scientific research in the laboratories. The teaching phase of the hospital will undoubtedly be carefully considered and strongly urged by our Medical Advisory Board, yet it seems important that the entire medical profession should lend their aid in support of the magnificent efforts of these gentlemen in obtaining that which is most needed by the Cincinnati teaching institutions. It is a well-demonstrated and well-established fact that the patient who is used for the clinical teaching of students is more thoroughly examined, more accurately medicated and more carefully observed throughout the course of his illness than is the patient who is not used for such teaching. The teacher is exposed to the constant observation and criticism of his class; his prognostications must be verified or disproven and his results must justify his teachings. The clinician is certain to devote his best energies to such patients.

The introduction of certain methods of precision in the diagnosis and treatment of cases has complicated somewhat the question of bedside teaching in a hospital, and has made necessary certain expenditures of money the wisdom of which may be questioned by the opponents of such teaching. Our new hospital wards, particularly the medical and surgical, will not be complete unless there is a separate and independent laboratory in an end room of each ward. The clinical teacher of medicine should be able to supplement the historical and physical examination of a patient suffering from malaria, anemia, leukemia, or tuberculosis of the lung, by an immediate demonstration of the further aids to diagnosis that are to be found in the laboratory. He should take a specimen of blood from his patient in the presence of the class, he should immediately take his class to the end room and he should demonstrate his findings. A general pathologic laboratory in a remote section of a hospital will not suffice. Independent smaller laboratories should exist. In the surgical wards an additional room should be provided for the teaching of surgical dressings, the application of splints, etc. The execution of such plans will necessitate the allotment of space and an expenditure of money which may be unjustly considered to belong to the patient, and it is just this spirit that the profession of Cincinnati should endeavor to counteract. An efficient pathologic laboratory with abundant provision for research work is another phase of the new hospital which requires the support of the profession. The Cincinnati Hospital should be the centre for pathologic study and pathologic teaching. The magnificent encouragement already given by the superintendent and managers of the hospital to the employment of scientific methods of investigation should be encouraged. Complete facilities for bedside teaching and a better teaching organization of the pathologic department will do much to advance Cincinnati as a teaching centre, and will confer incalculable benefit to the many thousands of patients treated yearly in the Cincinnati Hospital.

H. J. W.

DIPHTHERIA ANTITOXIN IN EPIDEMIC CEREBRO-SPINAL MENINGITIS.

There is perhaps in this country no epidemic disease attended with a greater mortality than cerebro-spinal meningitis. Not alone the high mortality makes it so terrifying, but the frequently occurring blindness, deafness, idiocy, paralysis, and so forth, that follow the disease almost inclines one to the belief that death might well be looked upon as a satisfactory termination. In some of our Eastern cities, particularly New York, the affection has been on the increase, in February, of this year, 149 deaths having been reported, while January contributed 107. This large number of deaths has attracted widespread attention, and has led the Health Department to request a commission to investigate the cause of the unusual prevalence of the disease and to try to find some remedy to retard, or, if possible, to stamp it out. Such a remedy, indeed, seems to have been found by Dr. Arthur J. Wolff, of Hartford, Connecticut, in large doses of the diphtheria antitoxin. Wolff, in a recent letter, says: "We early found that there is a pronounced antagonism between the Klebs-Loeffler bacillus and the meningococcus, and during the course of study on this part of the investigation I found that pure cultures of the meningococcus were killed by the antidiphtheritic serum, and not only precipitated when mixed with the latter, but active buillon cultures, when mixed in bulk with the antitoxin, are precipitated in the same manner." Wolff's clinical experience has been as satisfactory as his laboratory work would have led him to believe, four typical cases of meningitis, diagnosticated by lumbar puncture, having been cured completely by this method of treatment, with no failures.

Waitzfelder, of New York, was the next to take up the remedy, and while his results have not been so good, they have certainly been sufficiently striking to attract deserved attention, and lead us to the belief that at last we have a remedy which is able to exert some influence over this deadly disease. Waitzfelder has treated in all seventeen cases, of which five have recovered completely, three have died (two of the three adults), while nine cases are still under treatment. Of these latter, five show such marked improvement as to indicate probable recovery (four are already convalescent), while the remaining four are all recent cases and are still in a serious condition. Taking into consideration the four convalescents, we are justified in saying that of the twelve cases that have run their course there have been but three deaths, a mortality of but 25 per cent., a splendid record in this disease. In all cases lumbar puncture was made and the diplococcus intracellularis meningitidis found in all cases but two, while in these latter the symptoms were characteristic. The symptoms usually present were fever, delirium, vomiting, irregularity of pupils, abdominal retraction, Kernig's sign, eruption, increased fluid on lumbar puncture with presence of the meningococcus. Waitzfelder says that a feature of his cases was the absence of opisthotonos, a point usually insisted upon by text-book writers.

In all cases a larger dose of the antitoxin is needed than is given in diphtheria, and it should be given daily until the urgent symptoms abate. In one case, a woman of nineteen, injections (10,000 units each) were given on February 14, 15, 17, 18, 20 and 22, in all 60,000 units; recovery. It is advised that lumbar puncture should be resorted to at any time in the course of the case that there are symptoms indicating cerebro-spinal pressure. Of great importance is the fact that not a single bad symptom developed as the result of the administration of the antitoxin. While it must be admitted that "one swallow does not make a summer," and that these series of cases are too small to admit of any definite conclusions, yet the results obtained are most encouraging, and warrant continued trials in this direction.

EDITORIAL NOTES.

Dr. Arthur Cushny, Professor of Materia Medica and Therapeutics in the Medical Department of the University of Michigan, has recently resigned from the latter institution to accept a similar chair in the University of London, England.

At the regular meeting of the Columbus Academy of Medicine, held Monday evening, February 6, a number of committees were appointed to arrange for the annual meeting of the Ohio State Medical Association which will be held in Columbus in May. President F. F. Lawrence and Secretary Chas. J. Sheppard, of the Academy of Medicine, will be at the head of the general Committee on Arrangements. The committees are:

Accommodations—Dr. Charles Fremont Turney, chairman; Drs. H. M. Platter, Frank Winders and Sherman Leach,

Entertainment—Dr. J. H. J. Upham, chairman; Drs. J. E. Brown, Sterling Wilcox, Frank Warner and Yeatman Wardlow.

Exhibits—Dr. F. J. Blake, chairman; Drs. Vandeer Taylor, D. W. Deuschle, Wells Teachnor and Sylvester Goodman.

Finance—Dr. H. W. Whittaker, chairman; Drs. C. S. Hamilton, George M. Werner, P. D. Shriner, J. W. Clemmer, Charles McGavran and Dr. Emerick.

The Supreme Court of Ohio, in a recent decision, holds that Christian Science healers cannot practice in the State without a license. The court stated:

"The giving of Christian Science treatment for a fee, for the cure of disease, is practicing medicine within the meaning of the statutes regulating such practice in this State. The statute making it a misdemeanor to give such treatmennt for a fee is not interference with the rights of conscience and of worship, and is not on that ground unconstitutional. Legislation prohibiting any one from treating a disease for a fee, excepting such persons as have prescribed qualifications, is a valid exercise of the police power of the State and is constitutional."

Report of the Bureau of Infectious and Contagious Diseases for the week ending March 3, 1905:

Disease.	Cases.	Deaths.
Measles	4	0
Diphtheria	6	1
Scarlet Fever	13	2
Typhoid Fever	26	2
Phthisis Pulmonalis	9	23
Pertussis	19	—
Varicella	15	—
Smallpox	7	1

At the Academy of Medicine of Cincinnati, Monday evening, March 20, Dr. Robert Carothers will read a paper on "Traumatic Tetanus."

Dr. R. A. Wright has found copper citrate very useful in granular lids, and claims for it superiority over all other treatments. He uses it in the form of an ointment with white vaseline as a base in a strength of from 3 to 10 per cent.—*Med. Summary*.

P. S. CONNER, M.D.
J. C. OLIVER, M.D.

Surgery.

H. J. WHITACRE, M.D.
H. A. INGALLS, M. D.

Complete Removal of Lymphatics in Cases of Malignant Disease of the Tongue

Butlin (*British Medical Journal*, February 11, 1905) contributes a convincing article advocating the complete removal of all lymphatic structures in the anterior triangle of the neck in cases of carcinoma of the tongue. He speaks of the anatomic arrangement of the glands in this region, but inasmuch as we cannot rely only upon one group of glands being affected by cancer of a particular part of the tongue, the entire lymphatic structure of this general region must be removed in all cases. The operation is performed by making an incision from the mastoid process to the sterno-clavicular joint. Then another incision is made from the symphysis menti, across the side of the neck to meet the first incision about the upper border of the thyroid cartilage. These flaps include skin alone. The dissection begins at the lowest part of the incision and removes all structures in the triangle, leaving only the large vessels. The internal jugular vein is sometimes removed along with the other structures. The wound is closed with gauze and tube drainage. Inasmuch as the parotid gland is often cut in the course of this operation, there is often a flow of saliva from the wound for a few days, but this never results in a salivary fistula. The author advocates an operation in two sittings—the operation upon the tongue, then as soon as the patient is fit for the second operation and before he leaves the hospital, usually about the end of nine days, the operation upon the neck is performed.

The author presents statistics which argue strongly for this procedure. The best results have been attained when enlargement in the neck was very small or imperceptible. He advocates removal of the submaxillary gland in all cases.

H. J. W.

Sprains of Knee and Ankle Joints.

Wilson (*Medical News*, February 25, 1905) outlines the treatment best suited to lesions of this sort. An accurate knowledge of the anatomy of these joints is insisted upon. The more promptly treatment is commenced after the accident the better the results obtained. It may be necessary to give an anesthetic or use the X-ray in order to arrive at the correct diagnosis. The immediate effect of a sprain of the knee is considerable pain and effusion, possibly hemorrhage, and swelling progressing rapidly, a rupture of one or more ligaments, possibly including the capsular ligaments. If the synovial membrane is involved to a considerable extent it renders recovery more tedious. It is of great importance to know if there is a bone lesion to complicate the case. The knee is first enveloped in very hot cloths, frequently changed for forty minutes to one hour; this relieves pain and prevents swelling. Gentle massage for fifteen minutes is then followed by adhesive straps. The knee is strapped by adhesive straps promptly applied longitudinally and overlapping, beginning eight inches above and extending as far below the knee and surrounded by a well-fitting roller bandage. The patient is now advised to do a limited amount of walking. In five or six days the dressing is removed and the parts are bathed and massaged, passive motion is instituted and the adhesive straps replaced. When the sprain has been very severe and associated with effusion into the joints, aspiration of the fluid is advised, then a plaster-of-paris splint is applied. Such plaster dressing should be carefully watched. After a few days' rest massage and passive motion are instituted. Patient is allowed to walk about in ten days or two weeks. A leather support is applied now until the joint becomes normal. The treatment recommended for the ankle joints is practicably the same.

Gibney's method of applying the adhesive plaster is advocated. This method is as follows. Employ massage for five or ten minutes with the foot well elevated. Next apply strips of rubber plaster about an inch in width and from twelve to eighteen inches in length over the part sprained, beginning back of the injury. Aim to leave the part of the foot not affected as well uncovered as possible, but reinforce well as the strips are applied under the malleolus or malleoli. The first strip for a sprain of the external malleolus is applied beginning just above the ankle on the unaffected side of the foot, and ending on the affected side, about half-way up the calf. This strip is usually along side the tendo-Achilles, and makes firm support under the heel. The second strip starts on the inner side of the unaffected part of the foot, near the ball of the toe, comes round over the back of the heel, and ends about the base of the little toe. It crosses the first one just above the border of the heel. The third strip overlaps the first half-way, the fourth the second, and so on until the part sprained is fully covered by this criss-cross strapping. A cheese-cloth bandage is applied, more with the idea of securing close adhesion of the plaster, and is removed within twenty-four hours. As soon as the dressing is completed the stocking and boot should be applied. The patient is now ready to begin walking, and this should be insisted upon in the presence of the surgeon. H. J. W.

Ophthalmology.

D. T. VAIL, M.D.

The "Combined Treatment" in Diseases of the Eye, Especially in that of the Uveal Tract.

Burnham, of Toronto, has used mercury and iodide of potash internally and pilocarpine hypodermatically in cases of inflammation, involving one or more membranes of uveal tract more especially, for many years and has proven to his own satisfaction that this "combined" form of treatment far excels in its results any other mode of treatment.

He reports in full some cases (*Ophthalmic Record*, December, 1904) of chronic irido-choroiditis, sympathetic ophthalmia, and other exudative diseases of the bulb in which he used this method of medication, together with local measures, and the results were very gratifying.

He states that the Turkish bath cannot be compared with the pilocarpine treatment, as the work accomplished is entirely different; the essential features of the combined treatment being "tissue change" and not glandular activity.

His method is to give six injections, one every alternate day, then allow an interval of from two to four weeks, repeating the injection again, and so on for many months or until a cure is effected. The K.I. and mercury are kept up pretty regularly.

The Magnet in Ophthalmic Surgery.

The February number of the *Ophthalmoscope* (London) contains original articles by Prof. Hirschberg, Prof. Haab and Prof. Snell on the use of the electro-magnet for extracting iron fragments that have penetrated the eyeball. No three ophthalmologists in the world are better able to instruct us regarding the use and abuse of this means of dealing with penetrating foreign bodies than these. The articles are in English, and deal with the subject exhaustively.

They all agree that magnet attraction is very apt to be erroneously applied, doing much harm, but that when rightly applied usually gives satisfactory results; they also avoid dragging the iron fragment through the ciliary, even if it has entered that route, preferring the safer route, which is oftentimes around the edge of the lens into the aqueous chamber.

Haab advises not to lose time in examining by X-rays and the magnetic needle, but to proceed at once to extract by magnet attraction. He stands behind the patient and pushes his head gradually toward the nose of his great magnet, so that it will present *opposite the middle of the cornea*, thus avoiding additional trauma to the ciliary body. Then, by watching the eye closely and shutting off the current by the pedal attached to the magnet and turning the current on again in a judicious way, the foreign body is made to glide around the lens and effect entrance into the aqueous chamber behind the iris at the lens margin. Here the relative position of eye and magnet tip is shifted so that the iron is drawn or lifted from the posterior chamber through the pupil into the anterior chamber, where it is accessible to extraction through an incision made with keratome or cataract-knife. But there is no fixed rule of action which will apply to more than half the cases. Oftentimes this mode of procedure is abandoned or not even tried because one's better judgment tells us that some other route is safer or more promising.

Snell often prefers to extract through an incision which he makes in the equatorial region of the eyeball, most often between the external and inferior recti muscles. A flap of conjunctiva is raised from the globe at this point and the sclerotic incised antero - posteriorly. Through this the iron is drawn from the vitreous body. This method appeals to us as being best, especially in those cases where the location of the iron body has been definitely determined by Sweet's localizing apparatus with X-ray assistance.

Some cases will yield excellently to the smaller hand magnets, but in any case the work calls for a high order of skill and judgment.

The articles of Hirschberg, Haab and Snell as published in the February *Ophthalmoscope* contain a rich fund of valuable information, for there are many sides to the subject, and we here have an available record of the experience of the best workers in the world in this field.

Aseptic and Antiseptic Precautions Prior to, During and After Cutting Operations on the Eyeball.

Fryer, of Kansas City, publishes a valuable paper (*American Journal of Ophthalmology* January, 1905), after reviewing the study of the eye from a septic standpoint and proving again the need for thorough asepsis in operative cases, gives the method of procedure as follows:

"The face, brow, temple and eyelids are carefully washed with soap and water; after this the same regions are cleansed with a 2 per cent. solution of carbolic acid. This is thoroughly done and especial care is had in rendering the lids and their free edges absolutely clean. Than a few drops of a 30 per cent. solution of argyrol is instilled into the conjunctival sac, the eye closed and a sterile gauze dressing of several layers dipped into the carbolic acid solution is applied to the eye, which dressing is large enough to cover the eyebrow, temple edge and the upper part of the nose of the same side, and also cover the upper cheek surface, and this dressing is retained in position with isinglass plaster; no bandage is applied. This dressing is changed each day and each day the argyrol solution is instilled, the patient being watched to see that the dressing is not disturbed or the eye rubbed. The number of days required for the complete antiseptic preparation varies; it may take a week or even three. Should there be any nasal disease the nares are sprayed with a solution of iodine and vaseline daily."

Optic Neuritis During Lactation, Including a Reference to Other Ocular Conditions Observed in this Period.

Dr. Derby, of Boston (*Knapp's Archives of Ophthalmology*, January, 1905), writes at length concerning the more important ocular diseases complicating childbirth and following it. He states: "Perhaps the most common (complications) is albuminuric retinitis, occurring, according to Sidney, once in every 3,000 cases. Less frequently is uremic blindness, with or without changes in the fundus oculi, observed. Other factors in the production of the loss of vision during this period are furnished by the rare hysterical amaurosis ascribed to the trauma of delivery, by retinal separation, by hemorrhage into the ocular tissues, by ischemia of the retina, due in some cases to ante-or post-partum hemorrhage and in others to alleged reflex contraction of the intra-ocular vessels. Finally, in cases of puerperal sepsis we may have seen metastatic infections."

Injuries to the Eye from Particles of a Copying Pencil Getting into the Conjunctival Sac.

Ray, of Louisville (*Ophthalmic Record*, January, 1905), reports two cases of aniline stain and inflammation affecting the cornea and conjunctiva where small grains of the "indelible pencil" had entered the conjunctival sac.

"Considerable smarting and lachrymation followed, but in a short while the pain subsided and the only discomfort felt was the excessive lachrymation, which was stained a deep blue. The following morning the eyelids were swollen and the discoloration of the secretion greater and the sight blurred."

The conjunctiva was swollen and deeply

infiltrated with a bluish stain. The corneal epithelium was dyed blue, vision= counting fingers. A piece of the offending substance was found in the lower cul-de-sac, where it had eroded and it was removed, but the eye continued to do badly. Blue tears continues to flow from the eye, swelling persisted and an area of destroyed epithelium appeared. Two weeks later he was able to evert the upper lid, when a slough was found in which was discovered a very small speck of the blue grit. A large ulcer of the cornea developed, but healing gradually set in and vision was ultimately restored, an inflammatory pterygium remaining. This was successfully removed by operation later on.

Another case came to him three years later which presented much the same features. In this case the grain of blue had found lodgment in the corneal epithelium. Cases of like nature have been reported by others.

The Ophthalmo-Kinetograph, an Apparatus to Record Ocular Movements.

That the eyes in their movements through the field of rotation and fixation do not move in straight unbroken lines, but by a series of jerky movements, is well known and has been definitely proven. Coburn, of New York (*Knapp's Archives of Ophthalmology*, January, 1905), has invented a kentoscope for recording on rapidly-moving photograph films placed in a light-excluding box these movements for the purpose of study and permanent filing. The apparatus is simple but ingenious. Advantage is taken of the brilliant spot reflected from the cornea from a point of light in front of the eye. This spot impresses the photographic film as it rapidly moves over a spool run by clockwork. The tracery shows the normal lateral movements of the eye to be not unlike the tracing produced by the sphygmograph, only that the summit and base of each wave is flattened instead of pointed, the flattened line representing the actual move and the wavy side of the line the rest period. The record of normal vertical movement of the eyes is much more irregular than the horizontal. He concludes by saying: "It is my belief that this apparatus in some form will supplant the present methods of examining and testing the ocular muscles. It is not the strength or weakness of a muscle that we desire to know, but whether its consensual relations are normal or not, and this fact (in permanent form for recording) may be determined from the use of this apparatus."

Otology.

C. R. HOLMES, M.D.

Aural Tinnitus Due to the Action of the Tubo-Palatal Muscles.

Walter J. Wells, Washington (*Journal American Medical Association*, January 21, 1905), reported to the Section on Laryngology and Otology of the American Medical Association two cases of objective and subjective aural tinnitus due to the action of the tubo-palatal muscles. The first case was that of a male, aged twenty-four, in good general health. Since two years he had been subject to a loud clicking sound in both ears like the snapping of a finger occurring in succeeding waves, sixty to a minute. The noise in the ears is always accompanied by an up-and-down movement of the larynx, which keeps exact time with the clicking. These sounds could be objectively heard twelve inches from the ear, also in front of the mouth. Ear drums slightly retracted. H. D. W. one half inch, right and left. Examination of the throat showed muscles of pharynx and palate involved in an almost continuous clonic spasm, which accompanied the up-and-down movement of the larynx and the noises. The mouth of the Eustachian tubes was also involved in these movements. At each spasm the posterior lower lip moved forward and upward in such a way as to greatly narrow the opening of the tube.

The second case was that of a young lady. Sounds both subjective and objective. The movements in the throat were slight jerky contractions of the posterior pillars, to which was occasionally added an elevation of the palate, but the latter movement was not at all necessary to the production of the clicking sounds. Examination of the mouth of the tube showed the same upward and forward movement of the posterior lip seen in the other case, but this was not a constant accompaniment of the sounds, taking place only when the palate was elevated. There was a scarcely visible fibrillary twitching of the inferior angle of the orifice at the moment of the contraction of the pillars.

Wells concludes from his studies that the action of the levator palati was rather to close than to open the mouth of the Eustachian tube, as evidenced by the upward and forward movement of the lower posterior lip to the anterior lip. He considers the tensor palati and the salpingopharyngeus as acting in antagonism to the levator palati, both tending to open the tube, the former by drawing the anterior wall forward and the latter by pulling the lower part of the inferior wall backward and downward. The action of either one or both might be concerned in the production of the clicking tinnitus.

Fibroma of the Mastoid, Auricle and Auditory Canal.

Thos. R. Pooley, New York (*N. Y. Medical Journal*, November 26, 1904), reported to the annual meeting of the American Otological Society a case of fibroma of the mastoid, auricle and auditory canal. The patient was a Polish Jew, aged twenty-nine years. On admission to the hospital there was found a large elastic growth, situated behind the ear close to the attachment of and extending for some distance on the posterior surface of the auricle, of about the size of a pigeon's egg; also another filling the meatus and extending for some distance into the auditory canal about the size of an olive. The tumor was firmly adherent to the cartilaginous concha and to the posterior wall of the auditory canal. The operation was difficult because of hemorrhage. About six days later the wound was breaking down and an abscess was forming. Evacuation of the pus and curetting of the exuberant granulations afforded but temporary relief, and a phlegmonous condition of the parts supervened, with severe headache, dizziness and nausea. About two weeks after these untoward symptoms began recourse was had to the X-ray. This was followed by an immediate improvement in the patient's general condition, and in less than a month the wound back of the ear had entirely healed. The patient discontinued further attendance and was lost sight of. The clinical diagnosis of this case was sarcoma, but the pathological diagnosis from the laboratory was fibroma. Pooley considers the tumor of the type of the recurring fibroid tumor of Paget.

Chronic Suppurative Otitis Media.

Wendell C. Phillips, New York (Transactions of the American Otological Society, Vol. 8, Part 3, 1904), reports a case of chronic suppurative otitis media in a hereditary syphilitic of fifteen years of age who was the subject of tuberculosis of the lungs and of the hip joint. Operation for the relief of the otitis was promptly followed by tubercular meningitis and death. In another case of chronic suppurative otitis in which pain and facial paralysis suddenly developed the Stache-Schwartze operation was quickly followed by meningitis and death. It then developed that two weeks previously the patient had had a severe attack of vomiting of a projectile character, with violent headache and partial loss of consciousness lasting for three hours. As this had been considered a "bilious" attack by the family, no mention of it had been made when the history of the case had been taken by the house physician.

The Vascular Theory of Tinnitus Aurium.

H. O. Reik, Baltimore (Transactions of the American Otological Society, Vol. 8, Part 3, 1904), considers the vascular theory of tinnitus aurium, and comes to the following conclusions:

1. The theory that tinnitus is due to an increased intra-labyrinthine pressure, as applied to the majority of cases, is utterly untenable.

2. The vascular theory heretofore presented was faulty in that it was based upon a misapprehension of the pathological changes that actually take place in the affections with which tinnitus is associated.

3. Laboratory experimentation and clinical evidence unite in support of the theory that tinnitus is effected through vaso-dilator changes in the tympanum or

labyrinth, and may be produced by any form of irritation that will so affect the vaso-motor nerves controlling the blood-vessels of the ear.

4. That the explanation of the mode of production of the subjective auditory sensations is found in the dilatation of the vessels, permitting an increased volume of blood to pass through them and thus causing the radiation of sound waves, which, though small in amplitude and intensity, are so magnified by the proximity of the vessel walls to the terminal filaments of the auditory nerve that they become appreciable.

5. The proper treatment for the relief of tinnitus should consist in the employment of remedies calculated to raise the arterial tension.

Sigmoid Sinus Thrombosis.

Corham Bacon, New York (*N. Y. Medical Journal*, October 1, 1904), reported to the annual meeting of the American Otological Society a case of sigmoid sinus thrombosis. The patient, an Irish woman thirty-three years of age, had had a mastoiditis of the right side operated upon by Bacon four years previously. The present attack began with la grippe, followed in about a week with mastoid tenderness, etc. On operation a perforation was found in the bone and the mastoid cells were full of pus. The sigmoid sinus was exposed for an inch below the knee. It was covered with granulations and the bone was removed until a healthy sinus wall was found. In doing this the sinus was accidentally injured. Six days later septic symptoms began to be observed, and as the wound seemed to be in a perfectly healthy condition the sigmoid sinus was opened on the tenth day. There was a free flow of blood from the upper end, but from the lower end there was no flow until a curette was introduced down to the bulb. Even then the flow was very moderate. The internal jugular vain was not ligated and excised. Recovery was uneventful. Bacon considers it probable that the infection of the sinus was due to the accidental injury of its wall during the mastoid operation. He concludes that if we operate in a case of sinus thrombosis and find that the clot has not broken down, it is not necessary at all, or even wise, to ligate the internal jugular vein, even if we do not get a free flow of blood from the bulbar end. He had reported a number of cases where this line of treatment has been successfully followed.

Otitis Media Suppurativa Acuta Complicated by Double Pneumonia and Septic Thrombosis of the Jugular Bulb.

E. B. Dench, New York (*The Laryngoscope*, January, 1905), reported to the American Laryngological, Rhinological and Otological Society a case of otitis media suppurativa acuta complicated by double pneumonia and septic thrombosis of the jugular bulb. The patient was a male, aged thirty-one years. Since one week acute left otitis following grippe. Otorrhea for three days. On admission to hospital signs were present both of an incipient mastoiditis and pneumonia of both lower lobes. Severe chill and temperature 106°F. Operation was out of the question. Discharge from the ear showed streptococci and sputum revealed pneumococci. On the twelfth day of the pneumonia the temperature dropped to 100°F., but in the course of a few hours rose again to 105.5°F. Following this the temperature remitted daily. There was pain in the knee, but there was no pain in the ear, the drum membrane had entirely healed, and there was no mastoid tenderness excepting just at the tip of the mastoid and in the neck just below the tip. It was determined that the jugular bulb must be the site of infection. The mastoid was opened, the lateral sinus was exposed and found to be occluded by a clot. About two drachms of thick pus escaped from the region of the bulb. No bleeding followed the use of the curette downward, but from the direction of the tricular free bleeding was established. The jugular vein was excised between ligatures. Evidences of profound general sepsis continued. Blood culture revealed streptococci. Antistreptococcus serum and infusions of 1:5000 formalin solution were used without effect, The patient died seventeen days after operation upon the jugular.

FOR excessive cough following influenza Dr. Hare suggests oil of sandalwood in doses of five to twenty drops in capsules. —*Med. Summary.*

The Lancet-Clinic

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BACTERIOLOGY AND IMMUNITY.*

"Cessante Causa, Cessat Effectus"—The Germ Doctrine—What it is and What it is Not.

BY R. E. HAUGHTON, M.D., A.D., SC.D.,
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Formerly Professor of Physiology and Operative and Clinical Surgery in the Three Regular Schools of Indianapolis, Ind., for Fifteen Years.

The experimental investigations made and being made by the aid of microscopy and chemical processes in aid of the study of biology are clearing up some questions and possibly unsettling some which were supposed to have been settled, at least *ipse dixit.* The whole system of physiological medicine is being reviewed by men in Europe, America and other countries, and we are coming to a better understanding as the searchlight of intelligent scientific investigation goes on. It has been thought that these investigations had proceeded so far and so distinguished a position had been reached that pretension and uncertainty had given way to demonstration and absolute certainty. Not so, however. I am fully in accord with the idea that when the causes and nature of disease can be revealed and fully understood, then will our therapeutic art and its resources be advanced to such a position that doubt and uncertainty will disappear from the horizon of mental vision, and disease in its true and essential pathology will be more fully understood. I do not assume to believe that we have perfected knowledge along the newer lines of medical investigation; neither do I suppose that men who are in the front of the world's progress are quite sure of all the conclusions which they may have reached and which have been published for our acceptance. We all know that the conclusions reached by men of one generation become changed by those of the next, and that the history of medicine is marked by change and decay, and new phases of doctrine and teaching are presented, and we label it scientific progress.

The question of germs as related to the causation of disease is one which needs and is receiving merited attention. It had been assumed by many that a definite germ is the cause of a definite form of disease, and, this being accepted, it was assumed there was nothing more to learn. On the question, does anybody who truly or sincerely desires the truth accept the present form of doctrine of causation by germs? Will any careful reader or investigator accept the present form of doctrine as to the present state of pathology of disease as causative because somebody has found some germs which are figured as having some definite form, size and motility, and as a result of this that therefore all contagious and some epidemic forms of disease have this cause and origin, and thus a classification of causative germs has thus classified the resulting forms of disease as being produced in such way? If so, I have not comprehended the etiology of disease. In one classification sixty different forms of disease are the result of sixty different forms or types of germs. Not so. The further I go and the more I study the causation of disease, its progress, symptoms in varying forms, the more I am led—yea, forced—to doubt the correctness of the doctrine of the agency of germs in producing what is now claimed. If we are right, now, in this particular, our fathers and forefathers were mistaken, as they taught entirely different doctrine. In some cases we have had ample proof and demonstration, and while I do not believe all that has been assumed and published, I am carefully investigating the trend of progress—assumed to be such, the so-called revelations of the microscope and chemical and laboratory descriptions of the causes of disease.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11–13, 1904.

1. Then we deal with primary and secondary causes in biological study.

2. The original or primary cause is usually found in the primary or secondary causes of cell impairment and impaired nutritional development of the same.

The causes which affect the health of an individual are not the cells or germs which he takes into his body by the ordinary means of air, water, dust, or contagium, but the malnutrition of an original cell, which, by reason of its malnutrition, becomes degenerate, impaired or poisoned, and this faulty nutrition introduces an aberration or departure from cellular type of normal cell elements, so that some special form of disease is produced. Take the cancer cell, for example. See it multiply itself until it destroys the structure or organ which it invades. Take scarlet fever, or typhoid fever, or lupus, and many other forms of disease, and watch their progress and development. We do not find that some bacillus, pre-figured and described, has invaded the given structure to produce it, but an aberration from normal cellular type of the cells of the part which has first produced the disease.

FACTORS IN DISEASE.

There are at least four factors in disease, and there may be many collateral ones.

1. Degeneracy of cells by heredity.

2. Entailment, by which such changes occur in cells, as perversion, change of forms; malnutrition, by which the normal type of cells are not produced, hence an aberration of form or type, as cancer, lupus, etc.; morbid cell action in local tissues, and also impaired function in local organs.

3. The environment of the individual, from birth to death of the same. The material out of which comes a well-rounded, symmetrical character and life are the same materials out of which is builded his body also, and an aberration of cells in the tissues of the body will also produce an aberration of mind and character, and which includes all nutritional conditions of mind and body of whatever kind or character.

4. The study of the biological history of the cell and the resultant tissues, including the living and dead elements of cell life, including all tissue life, which is but a congeries of cells.

All this history dates back to the original biological study of cell life, including the formation of cells into tissues and tissues into organs, and, after all, this includes the physiology, pathology and psychology of disease of whatever form or kind. Virchow, in 1858, gave us the most complete outline of cellular pathology, and which made its impress upon all teachings of biology from that day to this, and placed him in the front rank of the world's most renowned pathologists. May his name ever continue to live in honor and in memory among the lovers and cultivators of a genuine scientific, scholastic pathology, which will lead us to truth in its highest and purest development.

The law of life and its development is found in this, viz., that "Like produces its like," from which, in cells, in tissues, in bodies, in organs, in germs, there is no possible escape. (I only state the law and do not offer proofs of it, as there are many.) Again, the problem of relations in disease, such as the primary conditions of health in the individual, as good physical health, then environment, as purity of life, purity of food, cleanliness, which is next to godliness; complemental nutrition of cells and tissues, which must grow out of good blood, good food and plenty of fresh pure air, for the purpose of the very highest and best type of physical health, which must include all matters which fundamentally are required to produce the most perfect physical man.

THE CONTAGIUM OF DISEASE.

1. The introduction of germs (bacteria).
2. The immunity of individuals.
3. The conferred immunity (serum).
4. The toxins and antitoxins of disease, including tox-albumins.
5. The tyranny of tradition and its power.

The fact of contagion we do not deny. Secondly, the fact of germs or bacteria we do not deny, and the invasion of the same we do not deny; but that they are causative primarily we do most earnestly doubt and deny until we shall have more definite and absolute proof.

The doctrine of physiological immunity we have proved and demonstrated for ourselves many times in experience and observation. The conferred immunity we do not doubt, but having tried oftentimes to secure it in the relief and cure of disease, and have not seen it except in the mitigation of the fearful mortality of diphtheria, and which has become an accepted proposition, so that in an epidemic of the same if a man would refuse to use its antitoxin for cure or relief of the disease would call down upon him the maledictions of the people and the profession. Virchow once said: "We must not deceive ourselves or one another in respect to the conditions of medical science." Unmistakably medical men are tired of the many hypothetical systems, which are thrown aside only to be replaced by similar or worse ones. Prof. Osler has expressed kindred views in a general summary of the progress of medicine, and not unfrequently similar expressions are seen in the current medical literature. What are the reasons? Men are tired of the untrue and uncertain in medicine, as they are in everything else.

I was upon a time carefully studying some questions of internal medicine when the question was suddenly presented to my mind, "What is a ferment?" I studied the relations for a considerable time before I was able to satisfy myself what it was. But, turning to the physiology of digestion and nutrition, I began to trace the secretions, first of the salivary glands, the structure of these glands, the cause of secretion, the power and influence of the nervous system, and then followed the idea into gastric digestion and the effect of the secretion of the pancreas, of the bile, and reached my answer, viz., to find in the intrinsic functions of all the organs of secretion an element which would produce harmonious action in a complete and perfect digestion, and thus find an organic purpose in their being at all, charged with, as these organs seemed to be, a completed nutrition and an agreement in an uniform purpose. I found that this purpose was clearly manifested in all the digestive functions up to a definite standard, and that standard should be manifested at some point, and when I saw that the blood was its acme of result I saw then a reason for all the organs and the functions performed; a reason for such physiological work.

Having gone over a careful study of vital processes, the nature of metabolic changes, again the question recurred, by what means in the fluids which are known to aid the solution and assimilation of food elements is the material at last converted into blood, corpuscles, red and white, and the composition of elements in each, as well as the serum in which they float?

Prof. Foster wrote on the subject of respiration as follows: "We cannot trace the oxygen during the sojourn in the tissues; we only know by experiment it is used up in some important functions of the tissues, while carbonic acid and water result." Then respiration becomes more than a lung process, and blood corpuscles become the means of tissue change, or breathing becomes also a problem of the action of cells which perform function to the completed oxygeneration of all elements in the body. By this we mean that red corpuscles are prepared to carry oxygen to all tissues, and thus protects and defends by immunity all the structures in the organism. Now we answer to the question what is a ferment, or what is an oxidation ferment? This is difficult to answer.

First, in the salivary glands it is ptyalin; in the gastric fluids it is pepsin, and an alkaloid; in the pancreatic secretion it is pancreatine, and being mixed with the other it rapidly converts starch, raw or hydrated, into sugar (or glucose).

Second, in alkaline solution its normal reaction converts albuminoids into peptones.

Third, it emulsifies fats and decomposes them, with absorption of water and liberation of glycerine and fatty acids. It is thought to contain two or three ferments and a ferment obtained in its purity by Kuhne he called trypsin, which in aqueous solution digests fibrin immediately, but has no action on starch.

Passing on to the blood elements, we have hemoglobin and its derivatives, hemato-crystalline, etc. These exist in two conditions of oxidation, one of which is known as oxyhemoglobin, with a composition chemically of C_{600}, H_{960}, N_{154}, FES_3, O_{179}. It contains beautiful crystals, the hemoglobin of the blood which is formed from this during the passage from arterial into venous blood.

I might follow the blood cells and their elements further, but it is not necessary to the present purpose, except to say that all tissues of organs comprehended in the performance of function receive some agent, viz., oxygen, which permeates the vascular net-work of all the tissues and gives a clue to the physiological chemistry going on in them, and also shows the minute pervasion by which all the necessary elements of nutrition are supplied to them. So, also, the cell structure of brain, grey and white cells—if possible, far more difficult to comprehend, all nerves, dendrites of the neurons—also receive the plasma and the oxygen and the nutrition as shown by the reaction to staining tests.

The oxidizing substance supplied by the plasma to all tissues is the problem of chemistry to-day. What it is and how done is only suggested, because there was something lacking or deficient in all the past chemistry and physiology of function. This thought has led into deeper investigation, as in the muscle cells and elements. Myosinogen seemed to possess the residual energy necessary. I remember some thirty years ago, when I was studying the cause of the debilitation and contraction of the heart and blood-vessels, I came to a sudden arrest of thought as to what was the real and ultimate cause of contraction of muscular fibres. Then came the experiments made to prove observed conditions, as also observations upon the administration of remedies to produce or modify these conditions. Then the observation of rise and fall of temperature in the results observed, and also in the modification of temperature in disease, which was not yet known definitely, yet attributed to variations or changes in heat centres (so called) of the brain. Again, we were taught that the cause of the coagulation of the blood was in the fibrin it contained, and it was an inherent property of fibrin to coagulate and then contract. Now it is the myosinogen in the blood, and fibrinogen in the muscular fibre, and in the original cell of the fibre, which combined with oxygen and circulating in or among the tissues, confers some life power which we do not know about, and probably never will. So in the nervous system, myelin, the white substance of Schwann, its active principle being lecithin, containing carbon, phosphorus, fat and water. Thus it was seen that the myelin constituted the axis cylinders, neurons and essential material of structure of the cellular bodies, and all of these being supplied by an oxygen-laden plasma, and thus was observed that the reaction of these elements or bodies would generate and liberate nervous energy or power, and this has been found to be the conversion of one force into another—viz., heat into electrical force—and this in its reactions upon nervous tissue produces thought. Yet it has come to this, that all the power of the nervous system is required to regulate tone, vigor, function, so that it will be uniform in the manifestation of health in function at the highest degree of health, vigor and power of which any organism is or can be capable. This is found in the uniformity and correlation of all the forces possessed by an organic body. The ductless glands, as the spleen, the thyroid gland, also the pancreas, yet by autonomous power all of these organs and functions have been combined into unity and harmony, which protects against all poisons or injuries from internal or external causes, and we are brought to this conclusion, that, therefore, an immunity exists; a natural or physiological rule or law controls the law of life or being, which resists the effect of poisons, or injuries, and in such immunity is found the power to destroy internal toxic agencies and resist the destructive agency of external or traumatic injury, if at first it does not kill at once all vitality. This view of normal immunity suggests the idea of a conferred immunity, by using poisons introduced into animal bodies till immune to disease, and preparing the blood serum and using it to aid in destroying the product of germ disease and counteracting the germ poison. From this has come the idea that the disease to be cured is named after the bacillus believed to be the cause of such disease. We have this idea in its primary form in vaccination, and it has developed until in its fully developed form we find that the bacillus diphtheria has given us the disease which has been so largely modified in its mortality by this process. Other examples might be cited to prove the same thing.

THE PRIMARY CAUSE OF DISEASE

is found in an aberration or deviation in normal nutrition or normal formation of cells; and, secondly, in the nutritional failure of the same. It is not unfrequently found in hereditary entailment, backed afterward by a continuance of failure in normal nutrition, which has been outlined as *physiological immunity*. The environment of an individual is a largely predisposing cause of disease, as habits of life, including food elements, which impairs the power of a good, pure life, as appetite, passion, indulgences in any vicious or immoral habits, as drink, use of tobacco, drugs improperly used, want of cleanliness, which is next to godliness, impairing vitality and often poison the cells and tissues of the body and induce disease, and leads to early death. I mention here four factors of disease:

1. Degeneracy of cell life.
2. Entailment or predisposition by heredity.
3. Environment.
4. This view necessitates the study of biological history of cell life, the living and dead elements of cells.
5. The law of life and development.

That like produces its like is a law from which, in all the *arcana* of nature and grace, in all generations, in all organic bodies, in all cells, in tissues, in bodies and fluids, from which there is no possible deviation or escape. I do not need to discuss the law or its authorities; it is obvious to the most superficial observer. Finally, the contagion of disease. All disease has a cause, and when we study the causes of disease through the ages we are astonished, and were it not for the immunity suggested there would not be a human being left to propagate the race of the future or tell the mortality of the past. Perhaps it is well it is so. Yet I was once taught that *whatever is, is right*, a doctrine which is false and misleading. For instance, sin and its results, and which proves the contrary.

The elements of contagion or infection are minute microscopical poisons which may arise from diseased bodies and coming into contact with blood cells permeate the fluids and tissues of the body, produce the same disease from which the poison came, and thus we have the idea of *toxins*. Now when there is immunity (normal, as suggested), the poison germs may come into contact with normal tissues, and because of the immunity of perfect health no disease is produced, and such an one may walk the streets and enter our homes and no danger follows him. This has been observed in diphtheria, carrying the specific germ in the mouth and throat, and not sick, remaining well. In my own personal experience the secretions of a dangerously sick diphtheria patient were thrown into my face and upon my lips and hands, and no disease was produced. Such, I believe, is the power of a physiological immunity, and I never have contracted but one disease, viz., measles, treating all forms of contagious disease from yellow fever down through all the list of idiopathic and eruptive fevers.

Then the question arises, what are the conditions of conferred immunity and its agents, the serums? The thought has been already suggested in the conditions of immunity in perfect health, viz., the leucocytes and phagocytes are the active agents of protection, not serums, except as they would increase the activity of the same in producing such an activity of the cellular elements as to destroy the poison or toxin so introduced. So that conferred immunity by any agency is to stimulate the agency of the cells just mentioned.

Prof. Welch, in his Harvey lecture, quotes from Behring the terse definition of Erlich's theory, viz.: "The same substance, when incorporated into the cells of the living body, is the prerequisite and condition for an intoxication, which becomes the means of cure." This is not accepted as true, but Welch, quoting from Erlich, says: "The mechanism is one physiologically employed to promote activity of the cell elements which carry on nutrition and perform the function of consuming or destroying or assimilating whatever is inimical to the health of the tissues." Virchow taught the doctrine of specific affinities in cells and in tissues for the materials required, by which each cell was able to get from the nutritive fluid its appropriate nutrition. Hence the richness and freshness of the blood and plasma in the normal body are aids to health, and the cells of the blood and tissues act as antitoxins in eliminating the poison. In other words, the natural ferment generated in the various organs of digestion, developing in the blood making, and also keeping in mind that the alkalinity of the blood is a protective condition, the ferments entering into the blood are the antitoxic agencies which will finally destroy the toxin introduced or developed or will eliminate it in the excretions. Hence elimination has come to have a fuller and more comprehensive meaning than it ever had before.

The evidence is quite clear to my mind that the bacterial phagocytes get trypsin in the intestinal canal, and also in the blood of the portal vein, and here is the argument for the increased action of the liver and secretions generally by such means as will increase the circle of organs of secretion by remedies which are known to produce this result. To the trypsin, as found in the pancreatic secretion, is found an agent, antitoxic in itself, which destroys all toxic albuminoids, vegetable poisons or toxins which invade the body from other sources. The bacteria are digested, rather injested, and find their doom and destruction in the white or phagocytic cells. This process finds an illustration in the process described by Virchow and Conheim, by which cells are seen to plunge into the vacuoles of the cell wall, passing into or through the walls of the vessel, and when discovered outside of the vessel, or in *transitu*, they were said to be to all intents and purposes pus cells. Not necessarily so, because the white cells by diapdesis, pass the capillaries in inflammation, and hence raises this question, which is the subject of one of my papers published in the transactions of the Indiana State Association (1874), viz., "Does anything pass the capillaries except normal blood cells?" When there is inflammation in any tissue, then, it is an exudation process and exudation is cure (toxins and antitoxins).

The doctrine of phagocytosis, which was introduced by Metchkinoff, has been proved and demonstrated by many observers, and when we recognize the agency of a ferment included in the cell and acting to digest or destroy the poison, or, in other words (using the chemical idea), to antidote it by changing its nature and destroying its toxic quality in the blood, we have a process in the blood analogous to that of the red cells carrying oxygen to the tissues and removing carbon and other elements in the blood which are internal toxins, and must be expelled or removed by a process allied to elimination, which removes whatever is inimical to the health of the tissues. There are various toxins which are generated within the body in the processes of the vital or chemico-vital changes which must be neutralized and eliminated through the agency of the blood strain, as it is strained through the tissues, and here are the wonderful processes which the anatomist and microscopist discovers, and if we would comprehend the language of another in regard to the astronomer, "The undevout astronomer is mad," so we would say here "The undevout anatomist is mad."

Who can doubt the power of God? A writer, in view of and also in contemplation of His wonderful wisdom and power in the mechanism of man's body, said, "Man is fearfully and wonderfully made." These silent yet wonderful processes, which, when kept up to normal standard, render physiological immunity a magnificent and comprehensive study, becoming as interesting and instructive to men as a new and yet interesting novel in which are absorbed all his powers.

This would lead us by a deviation which I will not perpetrate to inquire into the material composition of the antitoxin serums which have been exploited and used in the treatment of so many forms of disease, among which are diphtheria, tetanus, tuberculosis, as also those in certain forms of nervous disease, as affections of the cells in the anterior and posterior columns of the spinal cord, and claiming many instances of cure for poliomyelitis and progressive locomotor ataxia. So that the field widens, and we stand in the centre of it and watch for results of the same to be cures, if so be they should be announced upon creditable authority, as the facts of the progress being made in this early history of the twentieth century medicine. That some remarkable things are occurring in this field, the sum of which is not yet written, is true, and every man who observes, investigates, tests, by observation and experiment, the truth or falsity of what is announced to be true, is a true medical clinician.

It is true and accepted that the mortality of diphtheria has been reduced as low as 8 to 12 per cent., and the question arises, What is the composition of the serum which has reduced such a frightful mortality? First, it is a blood serum, and this is the vehicle for cure by introduction into the blood. What for? To confer immunity and cure the patient by such agents as enter into it by serum of the blood of the horse. Secondly, trypsin, which has been mentioned as the permanent antitoxin, combined also with an oxidizing agent which submits all toxics to oxidation and rendering the animal immune, and this serum coming into the tissues or blood is found to arrest the processes of disease, counteract poisons and cure the patient in diphtheria. Those of us who have been in epidemics and watched the fluctuating powers of the vital forces in disease are profoundly impressed with the dangers of the struggle. One of these is the exudation process, producing the "pseudomembrane" covering the tonsils, palate, throat, and adhering so tenaciously, is one of the pathological processes which interfere with oxidation, and by this means arrests blood changes in the formation of the very elements which should render the sick one able to fight the battle of life successfully. What changes occur under the antitoxin? These, viz., not the protoplastic cell, elements of the tissues evidently.

If we use the normal salt solution introduced into the blood or hypodermically, we find it a sustaining force in great depression or exhaustion, besides furnishing to the blood an alkaline condition, an addition to the serum of the blood in aid of oxidation, so that the lymph-vessels and spaces are receiving the elements which sustain vital forces and the toxins are diluted and finally eliminated. The false membrane is a process of elimination, and thus the two processes of elimination and antitoxic serum finally accomplish the cure. Again, the functional elements which are present in the blood cells, viz., myelin, myosin, myosinogen, the agents which sustain the functional work in performing it and the rapid absorption of the saline fluid, points to an escape of the same into lymph spaces, not so much by being taken up into the blood channels.

The lymph circulation presents another problem and route by which fluids aid in supporting the oxidation, the respiration, the nutrition of cells engaged in the active performance of the function before mentioned. Hence, any agent which aids or protects leucocytosis favors genesis of cells, with improved nutrition of the same, in all diseased processes, and also aids and secures elimination.

THE FERMENTS OR ANTI-BODIES.

One important observation is to be made first in the experimental processes, viz., that the introduction of a serum or antitoxin is found to produce fever, increased leucocytosis and loss of body weight, and if this be true it is a proof of an increased activity in the multiplication of cells in the glandular structures, in the lymph vessels and spaces, and thus by an increased activity we have an autolysis, which is the physiological method of producing immunity. It is not assumed here that this immunity is identical with that sought to be produced by the serum method. The first is to produce a natural immunity, and the latter is by a process of toxic poisoning which is to be arrested by an antitoxic serum as an antidote to the poison toxin which has produced the disease, viz., the bacillus diphtheria and its destructive results. Again, in processes of the metabolic changes, to those who are conversant with the changes, autointoxication takes place, and this is disease manifested by fever, and also excites leucocytosis for the removal of the poison.

Summarizing the thought, it is this that antitoxins exist in fluids, cells and tissues, and if the activity of vital processes is sufficient, viz., metabolic or metabolism, then the system becomes immune to the effect of such poison. This is a process of phagocytosis or destruction and elimination, or it may be all of these forces working together to arrest the disease and establish the immunity to health again, or immunity to autopoisons, which, in some form, is specific or general.

RESULTS OF THE INVESTIGATION.

It makes a better physician and surgeon, having a broader outlook, understanding vital processes better, also limits intelligently all vicious medication.

Finally, the intellectual effort, the preparation and natural endowment which is the capacity each man possesses, aided by study, thought, investigation, experience in each one who proposes to devote himself to medicine. The effect of education, the curriculum of the schools, in advance of what has ever existed before, all aid to develop a class of medical men who naturally shall prove to be superior to all the past in finding the truth, in advancing it to its proper position, and thus making the profession of medicine and surgery a dignified, honorable and useful profession, above and beyond the carping criticisms of the worldand established upon a throne of purity, honor and truth. It is not so yet, but is coming, as all intellecutal, moral and spiritual effôrt must ever lift man to loftier effort in the comprehension of truth in any direction.

THE TREATMENT OF DYSENTERY.*

BY C. W. M'COLLUM, M.D.,
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The treatment of dysentery was suggested as a topic for a paper by Dr. Reamy, and I was asked to write the paper. Trusting that what I have written may pave the way for a discussion which will throw much light on the subject, I will proceed.

As in the treatment of all other diseases we must first diagnose the condition, so with the disease under consideration. Formerly this disease was considered an inflammation of the bowel, confined in most cases to the colon, although in some cases it has been found affecting the small intestine just above the ileo-cecal valve, and also the appendix, beginning sometimes in the upper part of the colon and extending downward, and in others beginning in the rectum and going upward.

Recent pathologic studies have brought about great changes in our knowledge of dysentery, and it is now known to occur as the result of several causes, giving three kinds or types, known as catarrhal dysentery, bacillic dysentery, and amebic dysentery (tropical dysentery), the clinical symptoms being much the same in all three types, beginning with a simple diarrhea that is more or less frequent, loose dejections of a feculent character; with this diarrhea are colic pains, the appetite is impaired, and there is a general feeling of malaise; a pronounced chill rarely occurs. After continuing for twenty-four hours to seven days the characteristic dysenteric stools appear, and may consist of feculent matter, mucus, blood, pus, serum, pseudo-membranes, necrotic tissue, bacteria, together with other low organisms and undigested aliment. The quantity passed at each act of defecation is small, but the act is repeated at short intervals, slight evacuations often taking place every hour or two, and sometimes a few moments only intervening. The mucus is discharged in the form of clumps of a yellowish or reddish glairy material, sometimes without feces and sometimes around balls of feces; the blood may give a diffuse or a streaky red color to the stools. The inflammation of the rectum occasions a sensation as if this portion of the bowel were filled, and leads to the frequent desire to defecate, with as much straining as the soreness of the parts will allow. This disposition to strain ineffectually is called tenesmus. Sometimes the straining efforts produce prolapsus of the intestine. The evacuations are frequently preceded by griping or colic pains, which are called tormina. The tormina and tenesmus are not proportionate to the gravity of the disease; they are sometimes wanting in fatal cases and are prominent symptoms in some mild cases; they are, however, the chief source of suffering. Tenderness on pressure is in some cases more or less marked over the descending colon, and sometimes over the tract of the large intestine. Meteorism or tympanitic distension is rarely present. Strangury and retention of urine are occasional symptoms.

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* Read before the Northern Kentucky Medical Society, January 12, 1905.

As stated above, we have three types of this disease, and the successful treatment depends on a differential diagnosis, which, however, is not readily made by the general practitioner. Malaria seems to be a prominent factor in the catarrhal form, and many cases are best treated by the administration of quinine with calomel to arouse the glands to action and irrigation of the bowel.

The bacillic type depends on the bacillus dysenteriæ, or Shiga's bacillus, and is the most frequently fatal form of this disease, the mortality running from 30 to 40 per cent. Death usually occurs in the first ten days. Symptoms of this form are more acute than those of other forms, but not enough so to be a reliable guide. The isolation of the bacilli and the agglutination test for Shiga's organisms are the reliable tests. Prophylaxis demands the same precautions as in typhoid fever, and is the most potent factor in treatment. In this form Shiga claims serum treatment as very useful. L. Rosenthal says the serm should be given in doses of 20 to 40 c.cm. by injection, and that it is also antitoxic. The only after-effects noted were a slight pain at the site of the injection, erythema or urticaria.

There occurred in his treatment of 157 patients 8 deaths, or 4½ per cent.; by the usual treatment the mortality had been 12 to 17 per cent. in hospitals. He claims that the serum has a favorable effect on all the subjective and objective symptoms, the pain and tenesmus become less; at the end of twenty-four hours blood disappears from the stools, the duration of the disease is lessened, and the chronic form seldom supervenes. The death-rate is reduced by over half if the serum is administered within the first three days after the disease has begun. Convalescence is rapidly established within one or two days. But whether or not serum therapy is employed, Shiga says suitable cathartics and enemata should always be administered, since these tend to limit the upward extension of the disease.

Liver abscess seldom or never occurs in this form of the disease. Mason, who has considerable experience in the tropics and Southern States, gives, as the result of his experience, ten grammes or about one-third ounce of Epsom salts in half-glassful of water every hour until a movement is obtained free from blood and mucus. This method is combined with irrigation of the lower bowel with normal saline solution two or three times a day, and as soon as the movements assume an ordinary diarrheal character astringents, such as bismuth subgallate in large doses, combined, perhaps, with a little Dover's powder, are given every three or four hours. Here let me pause to say that some authors think small doses of ipecac are just as effective as the large doses advocated by others. Should blood and mucus reappear the saline flushing is repeated. The lower down in the bowel the lesions are seated the more important becomes the treatment by irrigation. Great care should be taken in regard to the diet during convalescence, only liquids and very soft digestible solids being allowed. In the subacute and chronic stages local treatment should be carried out with especial care. The sphincters should be stretched and ulcers located as far as possible. These will often be found at the bottom of a little pocket in which fecal or other foreign matter lodges, keeping up the irritation. The author recommends the slitting up and scraping of these pockets; after this the use of the warm saline injections two or three times a day, with proper diet, suffices to effect a cure. When the lesions are higher up he recommends a silver nitrate injection of 1 : 500 or 1 : 250, two or three pints used slowly through a tube. In these cases large doses of dermatol are useful.

We now come to the amebic form. Dr. James P. Tuttle, of New York, in a paper read before the fifty-fifth annual session of the American Medical Association, says to some it has seemed a presumption to look on the amebæ as the cause of ulcers and dysentery, but the fact that they are present with other pathogenic agents in all cases, and the fact that the dysenteric symptoms and lesions disappear only when the amebæ have been eradicated and recur when the amebæ reappear, is positive proof, it seems to me, of their etiologic influence in this disease. I, therefore, assume that amebic dysentery has been proved, and we may proceed to consider its cause, its symptoms, its local lesions and its treatment, but as my paper has to do only with treatment we will pass to that.

The treatment of a dysentery is based on two facts. The disease is due to an infection of the colon by ameba dysenteriæ, and the seat of the infection is in the crypts of the mucous membrane or in the submucosa. Whether the original infection is due to the burying of amebæ themselves in the tissues or to the deposit of the spores it is impossible to state. From recent observations I am of the impression that the latter is more probable, but this is not important from a practical point of view. Our efforts should be directed towards getting rid of them and prevent their reproduction. In the beginning we may observe that there are usually no serious constitutional manifestations in this disease except when these are due to complications. There is, therefore, no indications for serum therapy, as the disease is not in the blood and cannot be reached through that channel. The whole treatment should be directed toward the local lesions, the destruction of the amebæ and the prevention of their development from the spores, and as these are buried in the tissues it is evident that it will be impossible to destroy them by superficial washing or flushing of the intestinal canal, although this treatment is important and should be made use of to get rid of all the germs floating about in the colon. It is clear, however, that something should be employed by which the tissues may be penetrated and the germs or spores destroyed in order to completely eradicate the disease. While bichloride of mercury, nitrate of silver, etc., may be germicidal to the ameba when brought in direct contact with it, it is perfectly clear that none of these remedies will penetrate the submucosa. This fact explains why so many cases treated by these remedies recur. The ideal treatment, therefore, consists of some method by which these buried organisms can be reached and destroyed *in situ*. Early in our studies of ameba dysenteriæ it was discovered that when the specimen stools on the slides on which they were being examined cooled off below a temperature of about 70° F. the motility of the amebæ was lost and could not be restored; this fact suggested that if the temperature of the parts containing these organisms could be reduced considerably below this degree the amebæ could be destroyed and their infection and reproductive powers would be eliminated. The application of cold to the intestinal mucous membrane through prolonged douches seemed to offer a solution of the question, and it was found that simple cold water served every purpose in destroying the amebæ. When the bowel is tolerant of hydrogen peroxide 50 to 100 per cent. of this remedy is introduced into the water on account of its beneficial effect to the ulcers and to combat any mixed infection that may happen to be present. The treatment is always begun by giving a large dose of Epsom salts and repeated once or twice every week as required. The time consumed in ridding the bowel of the amebæ depends entirely on the tolerance of the intestine to cold water.

In chronic cases, where there is tenderness over the cecum and hepatic flexures, an ice-bag is applied over this region for two hours twice a day.

Local ulcers of the rectum and sigmoid are treated by applications of argyrol and other astringents and antiseptic substances, as many of these ulcers are complicated by a mixed infection.

Internal medication is indicated where the digestion is impaired or where the patient needs stimulation on account of exhaustion.

Surgical treatment is needed in some cases, opening up the abdomen and flushing out the bowel by the removal of the appendix. Dr. Fenton B. Turck, of Chicago, in discussing Dr. Tuttle's paper, advised the use of hot water, first of temperature of 122° to 131° F., by gradually raising the temperature from 105° F., then follow with the cold application, as there was not so much danger of collapse of the patient.

In conclusion, it seems that the present treatment of dysentery, while based on a more rational and scientific basis, is really not essentially different from the old empirical methods heretofore found effective.

EARLY DIAGNOSIS OF CANCER OF THE BODY OF THE UTERUS.*

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In the discussion of the subject of diagnosis of cancer of the body of the uterus I shall confine my remarks entirely to primary cancer of the body of the uterus. Secondary manifestation of the disease does not concern us in this discussion.

Several varieties of the disease are recognized by all clinicians. The principal ones are: (*a*) Epithelioma; (*b*) medullary carcinoma; (*c*) adeno carcinoma; and (*d*) scirrhous or or fibro-carcinoma.

Cancer of the body of the uterus differs very markedly from cancer of the cervix as to the time of the invasion of the disease. Cancer of the cervix usually manifests itself during the last year or two of the menstrual life of the patient, or even a year or so after the cessation of that function, while cancer of the body of the uterus rarely manifests itself during the menstrual life of the patient, but usually within the first four or five years after the cessation of that function. Yet there are wide variations as to this fact. We sometimes see cancer of the cervix in young women in the forties (rarely in the thirties), and sometimes in old women ten years after cessation of menstruation. We also sometimes see cancer of the body of the uterus in women sixty-five or sixty-eight years of age; but these are exceptions, as every clinician will readily recognize. It is of vast importance, from a diagnostic standpoint, for one to recognise these facts, especially if we hope to arrive at an early diagnosis in cancer of the body of the uterus. One is so much more likely to discover cancer early if he suspects it and is on the lookout for it and anxious to make a correct diagnosis early.

The clinical history of a patient suffering from cancer of the body of the uterus is of very great importance to the clinician. A patient who has passed the menopause without any serious disturbance and has lived for one to five years afterward with perfect health, commences to complain of discomfort in her pelvis, abdomen and back, with a slight vaginal discharge (watery or muco-purulent) which is often accompanied by a more or less aggravated pruritus. Upon vaginal examination if no disease of the cervix or vagina is found to account for these symptoms, and there is no disease of the uterus manifest — more than that, the uterus is a little enlarged or sensitive to pressure—cancer of the body of the uterus should at once be suspected; yet from my experience, as a consultant, in dealing with this class of cases it is rarely suspected at this time. The patient may go on for months, and sometimes for a year or more, with no appreciable loss of flesh or health and with but little if any real pain before she has a bloody discharge, which at last appears. This, of course, always alarms the patient and her friends, and she is for the first time convinced that she has some serious malady. Many of these patients do not consult their physician until after they have had one or more attacks of bleeding. This is almost a perfect clinical history of the first three forms of the disease mentioned, in the first six to twelve months of the disease. In epithelioma, after the first few months, the watery discharge is more marked and the bleeding is more free. The bleeding is also more free in medullary carcinoma. In this form of the disease the uterus rapidly increases in size. Frequently the body of the uterus is as large or larger than a cocoanut, but it is freely movable. The cervix is perfectly normal in appearance and the patient's general condition is satisfactory, yet the disease may be far advanced.

In adeno-carcinoma the uterus does not enlarge so rapidly, the growth is slower in its progress and invades less tissue in a given time than in epithelioma or the medullary form of the disease. With these facts before us, it is our duty to settle the question of diagnosis at as early a date as possible in a patient with an obscure disease of the uterus. This should be done under an anesthetic, the patient being thoroughly anesthetized and the uterus dilated and curetted. In epithelioma and medullary carcinoma the uterus is always enlarged, and one is able, with a curette, to scrape out great quantities of soft material, leaving simply a thin shell of the uterus. I have frequently removed more than would fill a coffee-cup of soft brain-like cancerous material from the inside of the uterus in these cases. The diagnosis of malignant disease here is perfectly easy. Without the microscope the exact form of the disease might not be apparent; nevertheless, the diagnosis of malignant disease is perfect, and the question of the advisability of a radical operation in the near future should be definitely settled at that time. But if the disease is adeno-carcinoma the diagnosis is not always so easily made, especially if the disease is not far advanced. As stated before, this form of the disease frequently progresses very slowly, and it may be a year or two after the patient has irregular bleeding before it is possible to make a positive diagnosis as to the presence of malignant disease, because in the curetting it may not be possible to remove any part of the growth and the examinations under the microscope are negative. We can only suspect malignant disease in this case and curette again in a few weeks or a few months for other examinations until we are able to make a positive diagnosis.

In the scirrhous or fibro-carcinoma the diagnosis is not difficult, because the curette will invariably bring away some portion of the malignant disease from which the diagnosis can be confirmed.

In illustrating some of the interesting phases in the different forms of the disease I will use clinical notes of cases illustrating each variety of the disease:

CASE I.

Epithelioma of the Body of the Uterus.

Mrs. E. R., aged sixty-three, widow for twenty years, mother of a physician, a resident of Cheney, State of Washington. Menopause was established at the age of forty-four. She had no unusual trouble at that time. She enjoyed excellent health until the past four or five years, when she became very fleshy, also suffered from a fatty heart. Six months before she visited me she noticed, in addition to the leucorrhea that she had complained of for several months, an irregular bloody discharge. This annoyed and alarmed her very much. Her son took her to San Francisco, where a diagnosis of intra-uterine polyp was made. She was given an anesthetic for its removal. In the place of a polyp, however, the doctor, removed a large quantity (estimated as much as a half a coffee-cup full) of very soft cancerous tissue. The uterus contracted down rapidly and she went home in ten or twelve days apparently well. Within a month afterward she commenced to bleed a little at times. This gradually grew worse, and at the end of four months the disease had advanced so far as to protrude at the cervix. Her son decided to bring her to me for diagnosis and treatment. At the examination the uterus appeared to be somewhat smaller than an ordinary cocoanut. With her past history I decided to do a hysterectomy at once. This was done by the combined method.

At the time of the operation, January 13, 1898, the uterus was curetted and more than a coffee-cup full of soft tissue was removed. The uterus was still too large to attempt removal through the vagina without morcellement; therefore, the uterus was separated from the vagina from below, the abdomen was opened and the uterus removed by that method. The disease was so far advanced that in some places there was simply the peritoneum, with very little muscular tissue, yet this patient remains well to-day, six years after her operation.

CASE II.

Medullary Carcinoma.

Illustrating this form of the diseas report the following case:

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At the time of the examination the body f the uterus appeared to be about the size of n ordinary cocoanut, freely movable in the bdomen but exceedingly soft. The cervix as not dilated. Her physician had made diagnosis of fibroid tumor of the uterus, having just examined her for the first me a few days before her visit.

In passing a probe free hemorrhage was roduced and small fragments of the disse were broken off. Diagnosis of cancer the body of the uterus was made and e was prepared for operation. This was ade by the combined method, April 22, 94. More than a coffee-cup full of soft ncerous material was scraped out of the erus. The uterus was detached from the gina from below, the abdomen opened d the uterus removed. It was a typical edullary carcinoma of the uterus. This tient recovered and lived nine and a lf years. She died from general carcioma invading her abdominal organs, after illness of about four months.

CASE III.

Scirrhous or fibro-carcinoma is a comratively rare variety of malignant disse. The following case illustrates some the interesting features of this disease:

Mrs. W., aged fifty-five years, mother of three children, a resident of Clinton County, Ohio, was referred to me by Dr. G. W. Wire. She was a strong, vigorous woman, and had always enjoyed most excellent health until the present illness. She passed the menopause at forty-six without any unusual symptoms, and remained well until November, 1900, when she first noticed a slight vaginal discharge accompanied by pruritus. A few weeks later she noticed a bloody discharge, which only continued a day or two. She did not consult a physician until the last of January, 1901. She gave a history of having lost blood for a day or so, four or five times during this interval.

I first saw her early in February, 1901. The uterus was greatly enlarged. It was firm and was apparently fixed by adhesions. She suffered pains in the legs and back. The uterus was larger than a cocoanut. An operation was made for removal of the uterus. Malignant disease of the fundus was found, which proved to be scirrhous. The patient recovered promptly from the operation, but died from intra-abdominal recurrence of the disease within fifteen months afterward.

The termination of this case is similar, in my experience, to all cases operated upon that have fibro-carcinoma of the body of the uterus. All cases operated upon with this variety of the disease have early recurrence and succumb to intra-abdominal manifestation of the disease.

PRESIDENT'S ADDRESS.*

BY MAGNUS A. TATE, M.D.,
CINCINNATI,

llow-Members of the Academy of Medicine:

In accepting the Presidency of the cademy of Medicine I desire to express y sincere thanks to the members for lecting me to such an honored position. will try to fill this office in an acceptable anner, and I trust many of my apparent ults will be overlooked with that degree leniency characteristic of our profeson. Fairness toward each and every ember, at all times, shall be your execue officer's duty.

Satisfactory programmes are always difficult to secure, but I feel sure that with the aid of my councilors this can readily be overcome, and the papers read will be of interest to all.

The large enrollment in this society, now numbering 389, gives us a good working basis for excellent papers. I sometimes think that if the older members of our profession, who, through long years of toil and ripe experience, only knew and realized how we need their medullary form of the disease. With these facts before us, it is our duty to settle the question of diagnosis at as early a date as possible in a patient with an obscure disease of the uterus. This should be done under an anesthetic, the patient being thoroughly anesthetized and the uterus dilated and curetted. In epithelioma and medullary carcinoma the uterus is always enlarged, and one is able, with a curette, to scrape out great quantities of soft material, leaving simply a thin shell of the uterus. I have frequently removed more than would fill a coffee-cup of soft brain-like cancerous material from the inside of the uterus in these cases. The diagnosis of malignant disease here is perfectly easy. Without the microscope the exact form of the disease might not be apparent; nevertheless, the diagnosis of malignant disease is perfect, and the question of the advisability of a radical operation in the near future should be definitely settled at that time. But if the disease is adeno-carcinoma the diagnosis is not always so easily made, especially if the disease is not far advanced. As stated before, this form of the disease frequently progresses very slowly, and it may be a year or two after the patient has irregular bleeding before it is possible to make a positive diagnosis as to the presence of malignant disease, because in the curetting it may not be possible to remove any part of the growth and the examinations under the microscope are negative. We can only suspect malignant disease in this case and curette again in a few weeks or a few months for other examinations until we are able to make a positive diagnosis.

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* Delivered to the Academy of Medicine of Cincinnati, March 13, 1905.

In the scirrhous or fibro-carcinoma the diagnosis is not difficult, because the curette will invariably bring away some portion of the malignant disease from which the diagnosis can be confirmed.

In illustrating some of the interesting phases in the different forms of the disease I will use clinical notes of cases illustrating each variety of the disease:

CASE I.

Epithelioma of the Body of the Uterus.

Mrs. E. R., aged sixty-three, widow for twenty years, mother of a physician, a resident of Cheney, State of Washington. Menopause was established at the age of forty-four. She had no unusual trouble at that time. She enjoyed excellent health until the past four or five years, when she became very fleshy, also suffered from a fatty heart. Six months before she visited me she noticed, in addition to the leucorrhea that she had complained of for several months, an irregular bloody discharge. This annoyed and alarmed her very much. Her son took her to San Francisco, where a diagnosis of intra-uterine polyp was made. She was given an anesthetic for its removal. In the place of a polyp, however, the doctor, removed a large quantity (estimated as much as a half a coffee-cup full) of very soft cancerous tissue. The uterus contracted down rapidly and she went home in ten or twelve days apparently well. Within a month afterward she commenced to bleed a little at times. This gradually grew worse, and at the end of four months the disease had advanced so far as to protrude at the cervix. Her son decided to bring her to me for diagnosis and treatment. At the examination the uterus appeared to be somewhat smaller than an ordinary cocoanut. With her past history I decided to do a hysterectomy at once. This was done by the combined method.

At the time of the operation, January 13, 1898, the uterus was curetted and more than a coffee-cup full of soft tissue was removed. The uterus was still too large to attempt removal through the vagina without morcellement; therefore, the uterus was separated from the vagina from below, the abdomen was opened and the uterus removed by that method. The disease was so far advanced that in some places there was simply the peritoneum, with very little muscular tissue, yet this patient remains well to-day, six year's after her operation.

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Medullary Carcinoma.

Illustrating this form of the disease I report the following case:

Mrs. B., aged fifty-five, mother of three children, passed her menopause at forty-three, and everything went well with her for four years. At the end of that time she developed an obscure uterine disease. After an illness of eight months, and having had three or four hemorrhages at irregular times, she was referred to me for examination. The patient appeared to be perfectly well. She was a strong, vigorous woman, weighing about 160 pounds. She had not lost flesh or strength, and her appetite was good. All the functions of the body were well performed. She only had the uterine disease to annoy her—the irregular discharge of blood with leucorrheal discharge and pruritus.

At the time of the examination the body of the uterus appeared to be about the size of an ordinary cocoanut, freely movable in the abdomen but exceedingly soft. The cervix was not dilated. Her physician had made a diagnosis of fibroid tumor of the uterus, he having just examined her for the first time a few days before her visit.

In passing a probe free hemorrhage was produced and small fragments of the disease were broken off. Diagnosis of cancer of the body of the uterus was made and she was prepared for operation. This was made by the combined method, April 22, 1894. More than a coffee-cup full of soft cancerous material was scraped out of the uterus. The uterus was detached from the vagina from below, the abdomen opened and the uterus removed. It was a typical medullary carcinoma of the uterus. This patient recovered and lived nine and a half years. She died from general carcinoma invading her abdominal organs, after an illness of about four months.

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BY MAGNUS A. TATE, M.D.,

CINCINNATI,

Fellow-Members of the Academy of Medicine:

In accepting the Presidency of the Academy of Medicine I desire to express my sincere thanks to the members for selecting me to such an honored position. I will try to fill this office in an acceptable manner, and I trust many of my apparent faults will be overlooked with that degree of leniency characteristic of our profession. Fairness toward each and every member, at all times, shall be your executive officer's duty.

Satisfactory programmes are always difficult to secure, but I feel sure that with the aid of my councilors this can readily be overcome, and the papers read will be of interest to all.

The large enrollment in this society, now numbering 389, gives us a good working basis for excellent papers. I sometimes think that if the older members of our profession, who, through long years of toil and ripe experience, only knew and realized how we need their counsel, their teachings, I am sure they would come among us, aid and keep us from many mistakes that we of ordinary experience are constantly blundering into. Cicero truly says: "What nobler employment or more advantageous to the state, than that of the man who instructs the rising generation!" It seems propitious, though, to remind the older men, secure in their hospital and college positions, that I fear they sometimes forget their early struggles, and proper encouragement is often not given to their younger ambitious confrères.

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* Delivered to the Academy of Medicine of Cincinnati, March 13, 1905.

The grouping together of a number of papers relative to one subject will be tried, and if this symposium prove of interest and profit to the Academy members, one night each month will then be devoted to this line of work.

The Health Department of Cincinnati has at its head one of our members, Dr. Clark Davis, who constantly looks after the welfare of the city and its citizens, and I know progress will always be his watch-word.

Through the indefatigable work of Dr. Christian Holmes, ably assisted by Dr. A. B. Isham, Cincinnati in the near future will have a new City Hospital, and I take this opportunity to thank them for their unceasing labors. Many of the profession, and I among this number, thought it a mistake to select a different location than the one upon which the present institution stands, but now that the site has been chosen for the new City Hospital, each and all of us are a unit as to the needed requirement of a modern hospital for the worthy poor.

The library association has done good, faithful work, and their efforts in establishing and compiling complete medical literature should be encouraged.

Our local medical journal, THE LANCET-CLINIC, under the capable business management of Dr. Frank Cross and the able editorship of Dr. Mark Brown and his corps of assistant editors, has shown marked improvement during the past year.

I desire to call attention to case report night, which comes the last Monday of each month. During the coming year a discussion of the cases or specimens presented will immediately follow before other cases are read or specimens presented. This, I believe, will emphasize the most important points and so make it of more interest, not only to the reporter of case, but to his audience.

In Article 5, Section 1, we find the following: "The meetings of the Academy shall be held every Monday evening from 8 to 10. It would be an almost impossible feat to have members present at 8 o'clock, but unless some unforeseen accident should deter me from being present, the evening programme will begin at 8:15 sharp.

Under Section 6 I note that not later than 8:45 P.M. the regular paper shall be heard and discussed. This section I believe a very just one to the essayist of the evening, and it shall be rigorously followed out during my term of office.

In the course of each year one evening might be very profitably spent were some business proposition taken up and discussed, or some of the many points in law as applied to medicine explained to us in detail, and if such a programme is feasible it will be very seriously considered. The inviting of some one in our profession from a distant city to address us, one having attained such eminence as to merit our admiration and respect, is a feature that should always be encouraged, and I heartily agree with many of our members that one or more celebrities should receive an invitation from the President of this Academy, and I know a hearty welcome would be accorded them by the members.

Many physicians of good standing in and around Cincinnati are not members of this Academy. Such a thing ought not to be. The cause for this state of affairs must be investigated, and the remedy applied. In my humble judgment, the treatment should be a good, interesting, profitable programme, and the hand of fellowship. Our constitution says we congregate together to cultivate honorable fellowship. This, I believe, is one of the great fundamental secrets of our success in life. The getting out of our offices, away from the complaints of the sick, the mingling together and listening to views which often differ greatly from ours. These things take us from that narrow selfish path, so often found in people in other walks of life.

Remain at home, commune with yourself, become sarcastic over the discussion of papers by other members, don't believe in listening to such a paper because the essayist is not a personal friend; keep this up and you will soon bring yourself to that state of mental discouragement that made Samuel Johnson write: "More than half the unhappiness in the world comes from a person's unwillingness to look on the bright side so long as the dark side can be discovered." To say that such a man is eccentric is no excuse for his crustiness of manner and irritability of temper.

Emerson tells us that "Eccentricity may be harmless, but it *never* can be commendable; it is one of the children of that prolific failing, *vanity*, and whether it shows in feeling, manners, or peculiarities of dress, it is clearly acted upon from the presumptous supposition that the many are in the wrong, the individual in the right."

According to Alger, "we give advice by the bucket but take it by the grain." We all know he stated a true fact, and especially fitting does this apply to some of us.

In looking about for sunshine, fellowship and happiness, that little saying of Goethe seems to me very apropos: "We are only alive when we enjoy the good will of others." Isn't that true?

Are you physicians, eminent in your profession, in whose footsteps many desire to follow, surprised when you come once and sometimes twice a year to our meetings, to see so many strange faces that you feel as if you are not welcome and are not among friends? Then you go away dissatisfied with us, the paper of the evening, and say what an awful change is taking place in the Academy. Are you willing to admit that it is you yourself that is at a standstill, for it cannot truthfully be said that the whole Academy is? Are you content to be satisfied with the knowledge obtained by hard work and study, to say that you are not willing to be taught or accept ideas from others of your own school of medicine in this Academy, or are you determined to become self-centered, selfish in the gratification of your fanciful dreams?

Charles Kingsley tells us: 'If you want to spoil all that God gives you; if you want to be miserable yourself and a maker of misery to others, the way is easy enough; only be selfish, and it is done at once."

Now, members, won't you inspire, stimulate and encourage us who are willing to work for the welfare of this Academy by at least making an effort to attend just a little oftener than you did in the past. Won't you enter into the spirit of our meetings with that enthusiasm which you had only a little while ago? There is lots of room; come forward and make this a banner year in science, membership, and attendance, and let us cement those shattered bonds of fellowship into one strong cord of unity, peace, helpfulness and prosperity.

The Bacillus Pneumonia as a Cause of Conjunctivitis.

Derby, of Boston, reports (*American Journal of Ophthalmology*, January, 1905) an undoubted case of purulent conjunctivitis due Friedlander's bacillus. The patient, aged fifty-eight, had had a profuse purulent discharge from her left eye for a month previous to consulting the doctor. She stated that she "caught cold" in the eye and that it had been inflamed and discharging ever since. The discharge was thick, creamy and purulent. No follicular enlargements were present. The lacrymo-nasal apparatus was not affected; cornea normal. Two months' vigorous treatment with active germicides, dusting powders, etc., had little or no effect in bringing about a cure. Cultures on agar, potato and blood serum were positive. Control experiments were made on guinea-pigs by injecting fifteen minums of a culture in bouillon in the peritoneal cavity. Death occurred in thirty hours and pure cultures of Friedlander's bacillus were obtained from the peritoneal fluid, surface of the liver and from the blood.

This form of conjunctivitis is rare, but has been observed by other investigators. Gourfein found it in 23 of 450 cases of conjunctivitis. Derby found but this one case in 150 cases of conjunctivitis.

D. T. V.

DR. MURPHY states that jaundice, due to gallstones, is always preceded by colic, whereas jaundice due to malignant disease or catarrh of the ducts with infection is never due to colic.

SALT, with ground mustard, is a common and efficient emetic, and in accidental poisoning has the merit of being readily obtained.—*Med. Summary.*

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, MARCH 25, 1905.

DR. REED'S INVESTIGATION OF THE PANAMA CANAL SITUATION.

Some weeks ago Dr. Charles A. L. Reed, Chairman of the Legislative Committee of the American Medical Association, was requested by the President, through the Secretary of War, to investigate the sanitary conditions of the so-called canal zone of the Isthmus of Panama. After an investigation of fifteen days, Dr. Reed has submitted a lengthy report, taking up in detail all questions of sanitation. This report has been published in full in one of our contemporaries,[1] and must be regarded as a severe arraignment of the commission that has had affairs in charge. In regard to the sanitary staff, under the control of Colonel Gorgas, who, it will be remembered, did so much to free Havana of yellow fever, Dr. Reed has nothing but the highest praise, but believes that they have been wofully hampered in their efforts to combat the tropical infections with which the zone abounds. In this connection he says: "As a result of this investigation, I became impressed with the efficiency and zeal of the sanitary staff; with the fact that very much has been accomplished in the way of sanitation under exceedingly adverse circumstances; that much remains to be done which cannot be done unless better facilities are afforded; and that very much more ought to be done and would have been done if the facilities had been promptly furnished."

Dr. Reed brings forward numerous examples to show how frequently and in what petty ways the members of the sanitary staff have been hampered. The President of the United States, at the formal installation of the Isthmian Canal Commission, among other things, made the following statement: "There is one matter to which I wish to ask your special attention—the question of sanitation and hygiene. You will take measures to secure the best medical experts for this purpose whom you can obtain, and you will, of course, make the contractors submit as implicitly as your own employees to all the rules and regulations of the medical department under you. I presume you will find it best to have one head for this medical department, but this I will submit to your own judgment." It has come about, however, that the chief sanitary officer, whom and whose department the President had evidently intended should be largely autonomous, has become subordinated to the governor of the zone; to the chief disbursing officer; to the chief of bureau of material and supplies; to Mr. Grunsky; to the commission; to the Secretary of War; to the President.

It is no wonder, with this state of affairs, that things are not working smoothly, and, as Dr. Reed plainly says, it is an anomalous position to occupy for a man of the distinction of Colonel Gorgas, the foremost authority in the world in solving the peculiar problems that are connected with sanitation on the isthmus, being made subordinate to a number of others, themselves subordinate, and who are confessedly ignorant of the very problems with which he himself is most familiar. Space does not permit a full consideration of the report, which, however, should be carefully read *in toto* by every member of the profession.

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[1] Journal of the American Medical Association, March 11, 1904.

Another observation of the President in ushering the commission into office remains to be quoted: "I believe that each one of you will serve not merely with entire fidelity, but with the utmost efficiency. If at any time I feel that any one of you is not rendering the best service which it is possible to procure, I shall feel called on to disregard alike my feelings, and forthwith to substitute for him on the commission some other man whom I deem capable of rendering better service." Dr. Reed evidently believes that this time has come, for, in his conclusion, he urges the President to ask for the resignation of the commission as a body.

SHIFTING DULLNESS AND ITS IMPORTANCE IN CONNECTION WITH SURGICAL DISEASE.

Goodlee[1] has recently contributed a practical paper upon certain points in surgical diagnosis which explain many things that have long confused those clinicians who have had less extensive opportunities for observation.

The author first considers the question of shifting dullness in the back and over the lower part of the chest. He states that dullness in the back which shifts on placing the patient upon his face or upon the opposite side usually means that the pleura is healthy and that the cause of the dullness is subdiaphragmatic. This teaching is directly opposed to the older teaching to the effect that movable dullness in the back usually indicates the presence of fluid in the pleura. He claims that dullness resulting from a localized empyema does not shift at all; that the dullness resulting from a serous pleural effusion shifts so little, if at all, upon changing the position of the body as to be almost a negligible quantity. He also states that pleural adhesions may limit or prevent the dullness caused by fluids below the diaphragm.

Attention is called to certain errors in the diagnosis of fluid on the right side of the chest made by reason of a high position of the liver. This error arises from failure of appreciatiing three things: (1) That when the chest is a very long and narrow one the number of inches that the liver dullness measures in the back is larger than in the normal chest; (2) that the amount of liver dullness is always diminished behind when the patient is laid on the face or put in the knee-elbow position if there be no pleural adhesions; (3) that in cases of serous pleural effusion the dullness shifts very little, if at all. Abscesses of the liver generally leads to an elevation of the upper border of the liver either in front or behind, or both.

Attention is called to the fact that pencil markings over the ribs while the model is standing upright are usually one-half to three-fourths of an inch too high when the patient assumes the position of dorsal or ventral decumbency. Another cause of movable dullness and of possible failure is a well-known fact that the pulmonary resonance descends when the lungs are inflated. This resonance in respiration in young adults descends from one and a half to two inches in the mid-axillary line, and in many cases the liver dullness in the back, especially in the knee-elbow position, may be thus made to entirely disappear. Another source of fallacy is the fact that in both the chest and abdomen the results will vary greatly in deep and superficial percussions, particularly in painful conditions. This is to be explained by the contraction and relaxation of the muscles of the abdominal walls.

Dullness, whether in the chest or abdomen, will often disappear upon anesthetizing a patient. This is very often experienced in appendix tumors, and is easy to understand. The tightly contracted abdominal muscles, Nature's involuntary protection against injury, squeeze the unaffected coils of the intestine away from the space between the abdominal walls and the painful lump, but when they are relaxed the intestines slip in again and the previously dull area becomes resonant. A practical point of importance is the great danger of rupturing such an abscess by palpation after the muscle has been relaxed in such a case. A change in the area of dullness in empyema must depend upon a more free movement of the chest wall. The act of breathing becomes less painful or less suggestive of the possibility of pain, a movement which causes greater expansion of the lung. This expansion will drive the lung between the dull mass and the chest wall which were previously in contact. In some cases of ascites percussion gives a more extensive area of dullness when the finger is pressed lightly upon the abdomen than when it is pressed more firmly. This means that a thin layer of fluid intervenes between the viscera and the abdominal wall, and with firm pressure is pushed aside, thus again giving the tympanitic note. In percussing in ascites it must be remembered that if the mass of fluid is large there comes a time when the floating of the intestine is no longer possible, because it is anchored to the spine by the mesentery.

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[1] London Lancet, February 25, 1905.

Where the liver is large and some coils of intestine have passed on to its anterior surface the percussion of the liver area will give a tympanitic note unless the finger be firmly pressed down and displaces the intestines. This suggests the signs of free gas in the peritoneal cavity.

The disappearance of liver dullness in cases of abdominal distension from intestinal obstruction depends upon a different cause, namely, the tilting upward of the liver so that its anterior border comes to look forward and presents too narrow a surface to yield a dull note on percussion. For this reason the disappearance of liver dullness is looked upon as an untrustworthy sign for gas in the peritoneal cavity.

Attention is called to the fact that different results are obtained by different percussors owing to a different degree of pressure used on a finger by which percussion is made. Somes observers will hear murmurs with the stethoscope which are inaudible to others. This is explained by the fact that pressure with the stethoscope modifies the pitch of many if not all murmurs, and makes some entirely disappear.

The author next considers the percussion note in the abdomen under normal conditions, and states that it is impossible to percuss out with any degree of certainty organs in the abdomen. In cases with intestinal obstruction with much distension it is impossible to say whether there is free fluid in the peritoneal cavity, because the flanks may be dull when the patient is lying on the back but resonant on the uppermost flank when he is placed on his side.

This paper is full of practical suggestions, and many points are considered which cannot be reviewed in the present editorial. H. J. W.

EDITORIAL NOTES.

REPORT of the Bureau of Infectious and Contagious Diseases for the week ending March 17, 1905:

Disease.	Cases.	Deaths.
Measles	4	0
Diphtheria	4	0
Scarlet Fever	23	1
Typhoid Fever	15	7
Phthisis Pulmonalis	25	16
Pertussis	26	1
Varicella	12	0
Smallpox	4	0
Cerebro-spinal Meningitis	0	1
Erysipelas	6	1

WARREN COUNTY MEDICAL SOCIETY.—The society will hold its regular meeting in the Mayor's office, Lebanon, April 4, 1905, at 10 A.M. Dr. Eason Holbrook, of Lebanon, will read a paper on "Acne Vulgaris." After the discussion on this subject Dr. T. E. Keelor, of Lebanon, will read a paper entitled "What's She Fur?" At 1 P.M. Dr. J. W. Murphy, of Cincinnati, will read a paper on the "Relation of the Accessory Sinus of the Nose," with demonstration and exhibition of specimens.

The Bourbon County Medical Society.—Drs. Robert T. and Margaret C. Wood entertained the society at dinner, at their residence, corner of Fourth and High Streets, Paris, Ky., Thursday, March 16, at 6:30 P.M. The regular monthly programme was dispensed with. The purpose of the meeting was the discussion of means for aiding the ladies of Paris in the establishment and maintenance of a hospital.

Academy of Medicine.—The evening of March 27 will be devoted to the report of cases, exhibition of specimens, etc.

In Memoriam.

WALTER S. CHRISTOPHER, M.D.

The committee appointed by the Academy of Medicine to take action on the death of Dr. Christopher, late of Chicago, reported as follows:

"Dr. Walter S. Christopher was an active member of the Academy of Medicine of Cincinnati from 1883 to 1891, and thereafter an honorary member until the day of his death, March 2, 1905.

"Even during his novitiate as a member of the profession and this Academy he soon attained and occupied the front rank among his contemporaries, whose admiration he aroused by his thorough knowledge of medical subjects and his exceptional powers of their presentation. The regard and esteem engendered during this period grew steadily as we followed his rapid and uninterrupted advances during his migration from this city to Ann Arbor and Chicago and his residence in the latter city. Possessed of extraordinary qualifications as a teacher, none better equipped in comprehensive knowledge and training as a practitioner of his specially chosen department, pediatrics, fond of original investigation, the results of which he had the power to apply in practice, Dr. Christopher, with his master mind, became a leader in professional and public life.

"The affable and cheerful companion of many members of this Academy during his Cincinnati life, the staunch and loyal friends of those to whom he became attached, revered by students, honored by his colleagues, his departure in 1890 was deeply and sincerely regretted. Never with envy, none looked up with more pride to him in the prominent place secured by himself in his new home and profession than his Cincinnati friends. The Academy joins the medical profession in deploring his loss and extends its sympathy to the bereaved family.

"Geo. A. Fackler M.D.,
Chairman.
"Robt. W. Stewart, M.D.
"Jos. Ransohff, M.D."

LUTHER HOLDEN.

The writer well remembers going up the steps on Gower Street, London, in 1881, to carry a letter of introduction to Luther Holden. The door-plate had been scoured so long and so often his name could hardly be read. He received me kindly and gave me the key, in the shape of his card with a few words scribbled on it, to St. Bartholomew's Hospital, and, as I soon learned, to medical London. How he impressed me, a doctor of a few weeks! Large, handsome and kind. Were it not for his brogue and Burnsides he might be taken for an American. A large, squarely built frame, he seemed all bones, muscles and brains. One could easily imagine him the author of "Medical and Surgical Landmarks," and of "Human Osteology." His old anatomy students used to tell with what pride he would draw himself up and dwell on the superiority of the human frame over that of other animals, himself a striking example.

Luther Holden was born at Birmingham, December 19, 1815. He was the second of eight children, their father and mother being first cousins. He was a handsome member of a remarkably handsome family, the most of the men of which were members of the clergy of the Church of England. He died February 6, in his ninetieth year, and has a brother still living in his ninety-first year. He left no children. He was surgeon to St. Bartholomew's Hospital, having as one of his associates Sir James Paget. He was in 1879 President of the Royal College of Surgeons, England, and delivered the Hunterian Oration in 1881. He was, in his "Human Osteology," the first to use the blue lines to show the origin and insertion of muscles. He lived happily through a long retirement, spending his time in the enjoyments of a country gentleman and in travel over much of the world. Everywhere he went he was received with open arms by St. Bart's. students. One of his trips was to Johannesburgh in 1898. The *London Lancet* and *British Medical Journal* of February 18, 1905, contain fine portraits of Mr. Holden.

E. S. McKee, M.D.,

Cincinnati, March 22, 1905.

Society Proceedings.

OHIO VALLEY MEDICAL ASSOCIATION.

OFFICIAL REPORT.

Sixth Annual Meeting, Evansville, Ind., November 9–10, 1904.

WEDNESDAY AFTERNOON.

President Hayden: The next paper is "The Surgical Cure of Certain Cases of So-Called Chronic Dyspepsia," by Dr. C. A. L. Reed, of Cincinnati. (This paper was published in The Lancet-Clinic of November 26, 1904.)

DISCUSSION.

Dr. Dixon: I am going home and will not have a chance to talk for some time. There are one or two points in this paper which I should like to discuss. I am in full accord with everything he says, but there are one or two points that I wish to emphasize, and one is the diagnosis of ulcers of the stomach. This is not hard to make. If one takes into consideration that you have in that region the pancreas, the duodenum, and the gall-bladder, the stomach and the liver, but the symptoms of ulcer of the stomach are like so many other things not caused by this it makes us pause and think what we have. We cannot arrive at a diagnosis so easily as Dr. Reed would have us believe, although I have no doubt that a man that sees these cases every day can make a diagnosis off-hand almost. Take the cases of gall-stone, and in many cases the symptoms due to ulcer of the stomach, and sometimes it is a very difficult matter to differentiate the troubles. I have two cases in which I have had a great deal of difficulty. I have since learned that the difference between a gall-stone and an ulcer of the stomach can be easily diagnosed.

I want to say to you that there is no question in my mind but that the treatment of diseases of the stomach will, in a short time, pass from the domain of the medical man to that of the surgeon. These cases will be referred to the surgeon because they are surgical cases. Medical men are coming to recognize that fact. You take, for instance, the difference in symptoms of ulcer of the stomach and the gall-stone, an inflammation at the head of the pancreas, and sometimes it is necessary to make an incision to make a diagnosis. I think this is the thing that should be done. If a man is not able to make a diagnosis positively, then he should make an exploratory incision. This will not prejudice the case. If there are gall-stones, if there is trouble with the pylorus or the stomach, or if you have trouble at the head of the pancreas, you will find it by an incision, and in this way you will know positively about it. When we cannot diagnose positively we should do that very thing. This is now being done every day. I have seen it done by a man by the name of W. J. Mayo, whom the doctor quoted. The condition is not prejudiced by making an incision, because we ought to be prepared to go on and do whatever operation we find necessary when we make this incision.

As I have said before, I think stomach trouble will be taken entirely out of the hands of the medical man and put in the domain of the surgeon.

Dr. Reed: I concur in everything that has been said. There is difficulty in arriving at a positive diagnosis, and I think we stand too much for the precise. I contend for the prospective diagnosis, and I believe with a careful consideration of the symptoms you will arrive with reasonable accuracy at the prospective existence of the gastric disorder.

Chairman Stone: The next paper on the programme is the "Advances in Genito-Urinary Surgery," by Dr. William R. Blue, of Louisville, Ky. Is Dr. Blue in the room? If not, we will take up the next subject. The next is by Dr. Sippy, of Chicago. Is he present?

Dr. Sippy: I came down from Chicago for the purpose of giving a clinic to-day, but it is necessary to have material in order to give a clinic. The clinical material which seemed to be at hand disappeared from some reason or another; at least the patients were disinclined to come, but at the last moment, through the kindness of one of our members, we have found some material, so we hope to be able to hold something of a clinic.

Before we begin with this case I wish to show you an anatomical tissue of considerable interest. I have here a stomach. Before I show you the specimen I will give you the history of the case. The patient from whom this specimen was removed was the wife of a physician, and the history goes something like this. Something like five years ago the patient began to have difficulty in swallowing—I will not say that, but there was a feeling of fullness in the region of the chest and a lump in the throat. This lump appeared in the throat during the time of eating, and the woman being of rather a nervous disposition, it was looked upon as hysterics. Every once in a while the patient would have a feeling of fullness in the sternum and a lump in the throat. It was simply looked upon as nervousness, as it appeared sometimes after the patient had attended banquets. These symptoms did not arouse the doctor for more than a year, during which time she had more or less discomfort coming on during the time of eating. Sometimes it would be more than discomfort. The food would come from her mouth and it was supposed that she was vomiting. She would get up and vomit and afterwards come back and finish her meal without very much discomfort. At other times she would not vomit until an hour after eating. But through all the history of the case there was this feeling of discomfort during the time of eating. At times this discomfort was very great. About a year and a half ago the lady began losing weight. Her weight was about 150 pounds, and she was reduced to 119 pounds. At this time it was decided that she should be taken to a certain institution, and she was taken to that institution and kept under observation for two weeks, when it was decided that gastrectomy should be performed. I shall not tell you where this institute was, you would all recognize it if I should. A test meal was given and there was nothing present. It was thought that she might vomit the material she had eaten the day before. Ninety-nine times in a hundred when a patient vomits material that has been eaten the day before it is stagnated, and this is usually due to pyloric obstruction. The stomach was cut into and it was supposed that there was something the matter with the duodenum. The operation was performed. The patient began to vomit blood and for several weeks was in a most pitiful condition, and it became necessary to cut down upon the stomach to control the hemorrhage. The hemorrhage was controlled, the patient was put to bed, and saline solutions were given her, but she was in a very critical condition. She rallied from this and for a time seemed much better. She went home, but still had this discomfort during the time of eating. She kept on losing flesh. The operation was performed in December; in April she weighed 93 pounds, and I believe her original weight was 147 pounds. Now this is the history of the case—the discomfort at the time of eating. There are not very many things that will produce this and very few will produce actual pain. Whenever pain or discomfort is marked upon eating we should think of ulcers in the esophagus, or something is wrong. An ulcer in the cardiac orifice of the stomach will cause pain. There are not very many things that will cause pain immediately upon eating, and when pain is present we should look out.

This patient would apparently vomit without nausea. The husband told me that it was simply astonishing the amount of mucus that there was. He said he did not know where it all came from. When the patient would awaken in the night her pillow would be flooded with the material that came up while she was asleep. We had the patient drink water. She drank one glass and said it hurt her. We asked her to drink another. She drank it and the discomfort increased. We asked her to drink another, and while she was drinking this the water commenced to return, not with the act of vomiting, simply running out of her mouth. All she had to do was to bend over and the water would run out, and almost every drop would run out, too. She would just say that it was hurting her and she must get rid of it and she would bend over and the material would run out of her mouth—practically every drop. She could drink something like a half a pint of material before she would bring it up, and then it would come without any effort at all, and no nausea attending it at all. There was something queer about all this. Finally, we introduced the stomach - tube about sixteen inches — fifteen inches, accurately — and met with some obstruction; holding it there for a short time it passed on into the stomach. At some points holding it there we would find a slight increase of pressure. We could put in five cubic centimetres of water, and after the course of fifteen minutes or half an hour put in the aspirator and withdraw practically every drop of water. The condition of affairs producing obstruction was diagnosed. I will now pass this stomach around, and I hope you will all look at it closely. There was a radical change occurred, and we thought the patient would die, but she lived eighty-four hours, gradually getting weaker and weaker until death followed. It was very apparent why she died, for she could not get nourishment. She lost in weight three or four pounds every week. That is as much as anyone will lose without nourishment. The quantity of urine was reduced to such an extent that she passed only four or five ounces in twenty-four hours. This means an enormously high grade of obstruction somewhere above the intestines. The stomach absorbs very little water. This is very well known, for, as you know, most of the absorption takes place in the intestines.

In looking at the specimen I wish to call your attention to the operation. If the obstruction had been in the pylorus, as it was supposed at the time of the first operation, there would have been an obstruction for five years.

There have been fifty cases over the world within the last eight months, and it has been my fortune, or misfortune, to see six of these cases. This is one of them. We might spend our time going more minutely into this case, but I fear we haven't the time. When the food was swallowed the lower portion of the esophagus was closed. The food went into the stomach without anything to interfere. The contraction of the lower part of the esophagus is rather firm and sufficiently strong to hold a column of water nearly the heighth of the esophagus. More squeezing will cause more obstruction, and the material will have some difficulty in getting in and the food will begin to regurgitate. It does not require much to produce this. As soon as this regurgitation takes place it is just the same as stagnation anywhere.

(Here Dr. Sippy gave his clinic, but he talked and made so many gestures, and explained things by the man on the table that it was impossible to write out his talk.)

CHAIRMAN STONE: Does anyone wish to discuss this topic, or ask any questions about it. If so, we should be pleased to hear from them.

DR. REED: I should like to ask Dr. Sippy to be kind enough to define how we would know when an ulcer ceases to be a medical ulcer and becomes a surgical ulcer. I will confess I have not been able to find a doctor that could answer this question.

DR. SIPPY: I do not wish to get up and pretend to answer questions that doctors never have answered before, but this is my standpoint. It makes a difference as to finance. That is one of the times when the financial condition of the patient influences it. That is right. There may be a man that is perfectly able to have an absolute rest and can pay to take the so-called ulcer cure, and although he has this discomfort after meals he does not wish to submit to the knife, and perhaps we would not advise him to do so. If it is necessary he can take three ulcer cures without any inconvenience. That man may have an ulcer of the pylorus, and they are more difficult to heal than elsewhere, as the location influences the healing, on account of the contraction of the pyloric muscles preventing the rest that it is necessary to have. A man of this kind can take an ulcer cure and not have any inconvenience of a family dragging at him for support; he does not have very much discomfort except at the time when he has eaten, and those sort of things under the influence of the cure would disappear, and will not return for a considerable length of time, and as he is not obliged to work every day he can take proper measures to ward it off again. Such a man can go along a good deal longer than some one that must earn a livelihood for himself and his family. We must take the risk. There is a legitimate mortality. It is not very high. No matter what kind of treatment the patients have a certain amount of them will die. This is a legitimate mortality, however. So then I must say that the financial condition of the patient influences. There will be some cases, for instance, where a man comes to us with ulcer symptoms. For three or four years he has had an obstruction of the pylorus. He would vomit material eaten the day before. He is a poor man, and has perigastritis. That man is a legitimate case for operation, because it would be very hard to heal, and it is better for him to take the risk, as he is a poor man, and so it is a case for operation. With the rich man perhaps there is a question as to what should be done. Possibly under treatment and the influence of rest he would get all right.

A great many cases have the symptoms of ulcers for months and even for years, and indicate an obstruction at the pylorus, but with the proper influence and feeding, and watching the diet the discomfort has disappeared. I can relate a case where a man was operated on. This man had the symptoms and was finally operated on. That has been more than two years ago, and since the operation that man has weighed more than he ever did. He is feeling fine. I think this was the thing to do in this case. There must be absolute rest, dieting; there must not be food that irritates. There can be an increasing quantity of milk and cream eaten. If the ulcer is not complicated the quantity can be still increased at the end of the week. Then a soft egg may be taken, but there must not be the least thing that would cause friction. Before long a good meal can be eaten without discomfort. Sometimes the patients come back as high as the third time to take our treatment. There the financial condition of the patient comes in again. If after taking two or three courses the discomfort comes back I think it is time to try the surgical cure. When there is too much of a complication there must be a surgical intervention.

Dr. Reed: I just wanted to get some light on this question as to how many were medical and how many surgical cases. I was willing to take the 85 per cent. and give up the 15. As a matter of fact, it does seem that the rich people are nearly always medical and the poor ones are nearly always surgical. But in view of the fact that by the statistics that I quoted from really conservative authority of the mortality of the gastric ulcer, varies from 18 to 25 per cent. under medical treatment, and in view of the fact that the mortality under surgical interference ranges from 3 to 7½ per cent., I inquired because I wanted to know whether once in a while it was not fair to give the rich man the same chance as his servant.

Chairman Stone: That is the last number on the programme for this evening. We will now adjourn until 7:30 this evening, when we will meet at Evans Hall. We hope you will all be present and bring your lady, and have a good time. To-morrow we will take up the regular order of business at 9:00 oclock, and I hope you will all be on time, and ready to take part.

Otology.

C. R. HOLMES, M.D.

Relationship Between Non-Suppurative Otitis Media and Facial Paralysis.

H. O. Reik, Baltimore (Transactions of the American Otological Society Vol. 8, Part 3, 1904), discusses the relationship between non-suppurative otitis media and facial paralysis of the refrigeratory type. He is convinced that in the majority of cases, if not, indeed, in all of facial paralysis of this class, an acute or subacute otitis media is an intermediary condition between the exposure to cold and the appearance of the paresis. Reviewing the three cases of this kind that have come to post-mortem through intercurrent disease, Reik shows that the anatomical findings, in a microscopic study of the nerves, were the same in all cases, and consisted in a true degenerative inflammation of the nerve fibres with disintegration of their medullary sheaths but no involvement of the interstitial substance. The inflammatory destruction was always most intense in that portion of the nerve which had occupied the Fallopian canal, and when traced centrally showed in the nucleus or any portion of the nerve only such changes as belong to secondary degeneration from perpiheral nerve injury. From the fact that the outer sheath of the nerve and its interstitial substance are supposed to have been healthy in all these cases, it has been inferred that the lesion could not have extended from the tympanum. However, it would seem perfectly possible to have an injury to this nerve from excessive prolonged pressure within the confined space of the Fallopian canal where the nerve fibres would suffer while the more resistant structures of the sheath and connective tissue would escape. An examination of 300 temporal bones convinced Reik that a perforation in the wall of the Fallopian canal of some degree exists in one-half of normal specimens, and that the opening is most commonly situated above the oval window. He studied twelve cases of refrigeratory facial paralysis from the dispensary of the Johns Hophins Hospital. In not a single instance did the patient voluntarily tell the physician of any preceding or existing ear trouble. In ten cases the patient recalled the fact that the ear had given some discomfort shortly before the paralysis appeared. In four cases the aural discomfort still persisted. In but one case was there an acute inflammatory condition, and that case was observed on the day following the onset of the palsy. In the others there existed the picture of a subacute or chronic catarrhal process. In four of the cases there was the appearance of fluid in the tympanum and paracentesis proved the correctness of this diagnosis; once this secretion was purulent. In one case a firm clot of blood which was certainly not of recent origin was found. This was removed by irrigation, Politerization and the use of absorbents and within a few days there was marked improvement in the facial condition.

Fatal Results of Operations Upon the Nose and Throat.

F. R. Packard, Philadelphia (*The Laryngoscope*, September, 1904), makes a study of the fatal results of operations upon the nose and throat. Taking the local anesthetics first, he finds but one recorded case of death from cocaine anesthesia. The patient was a girl, aged twelve years. A "considerable quantity" of cocaine solution was sprayed into nose and throat for the removal of adenoids; the operation was successfully completed, but the patient suddenly died in syncope while preparing to go home. Of the general anesthetics, chloroform is credited with twenty-four deaths, chloroform and A.C.E. mixture with one and ether with one death. He quotes and heartily endorses Hinkle's conclusions as follows:

1. Statistics show an exceptionally high mortality from chloroform anesthesia in the operation for the removal of lymphoid hypertrophies of the pharynx.
2. The observations of the Vienna pathologists show that sufferers from adenoids frequently belong to an abnormal constitutional type (habitus lymphaticus) that has been found peculiarly susceptible to chloroform narcosis.
3. In view of the statistical and pathological data presented, the general use of chloroform in operations for hypertrophied tonsils or naso-pharyngeal adenoids is inadmissible.

It is significant, however, that twenty-one of these twenty-four deaths from chloroform occurred in England.

Packard found twenty-two deaths from other causes than the anesthetic, fourteen from hemorrhage and eight from meningitis, the operations resulting in this latter complication being two for the correction of a septal deviation, one application of perchloride of iron for epistaxis, one external incision for removal of nasal polypi and orbital tumor, one galvano-cauterization of middle turbinated, one probing of frontal sinus and injection of lachrymal canal and one removal of exostosis. In five additional cases the cause of death was not given, but Packard assumes from the context that it was from meningitis. These latter were all intranasal operations.

Chronic Purulent Otitis with Cholesteatoma.

Arnold Knapp, New York (*Archives of Otology*, December, 1904), reports an interesting case of chronic purulent otitis with cholesteatoma in the person of a girl, aged sixteen, presenting the characteristic signs of inherited syphilis. At the age of six she had scarlet fever and acute otitis, after which she became totally deaf. For two years she was treated in the infirmary for chronic otitis owing to her very poor physical and mencondition, and as the cholesteatoma did not cause any marked symptoms the radical operation was not insisted upon until she suddenly became quite ill and presented all the symptoms of an acute retention of pus in the middle ear, with possible intra-cranial complications. The operation showed an extradural abscess in the middle cranial fossa, caries of the labyrinth and granulations and pachymeningitis in the posterior fossa. As no lesion was found in the dura suggestive of a deeper trouble, an exploration of the brain was not made. The symptoms were all relieved and the subsequent course was uneventful, until, after curetting the granulations in the depth of the ear, one month after the first operation, the patient developed high fever, restlessness, delirium, headache, pain in the lower extremities, rigidity of the neck and vomiting. Lumbar puncture elicited an extremely turbid fluid containing many leucocytes. The condition of the patient was so critical and the diagnosis of purulent menigitis so probable that an operation was not considered advisable. The examination of the lumbar fluid for bacteria was negative. To Knapp's surprise, the case slowly improved and proceeded to recovery. It seems probable that the labyrinth was very much affected, and that a localized meningitis was present. Knapp refers to Gruening's case, which exhibited meningeal symptoms and where the spinal fluid was opaque and contained streptococci, but in which the patient recovered.

The Surgical Anatomy of the Facial Nerve.

H. A. Alderton, Brooklyn (*Archives of Otology*, December, 1905), reported to the Section on Otology of the New York Academy of Medicine a study of the surgical anatomy of the facial nerve as observed in eighteen adult skulls examined. Only one probable and one doubtful debiscence were found in the wall of the facial canal where it lies within the mastoid process. In the majority of specimens the wall was truly compact but in a few bones there was merely a denser concellous structure surrounding the canal. Seven marked and two dubious dehiscences in nine bones were discovered in that portion of the facial canal bordering on the cavities of the middle ear; all of these were in the neighborhood of the fenestra ovalis. No dehiscences were discovered in the bony wall between the facial canal and the labyrinthine cavities. The distance between the internal surface of the external wall of the facial canal and the spina supra meatum was measured. The average was found to be 15.9 m.m., the minimum 14.2, and the maximum 20 m.m. Averaging these results with the measurements of twenty-two bones by Noltenius, gives 15.5 m.m., with 11 m.m. as a minimum. The distance between the internal surface of the external wall of the facial canal and the posterior-inferior angle of the orifice of the osseous external auditory canal was found to be 12.1 m.m., the minimum not exceeding 7.5 m.m.; this external point of measurement was selected because it is left untouched in the operative field longer than any other portion of the external surface of the mastoid apex.

The facial canal in its vertical portion was found to be at an average distance of 3.5 m.m. from the nearest point of the posterior edge of the annulus tympanicus, the minimum measurement being 3 m.m. The distance between the tympanic cavity in the region of the sulcus internal to the posterior edge of the annulus tympanicus and the nearest portion of the decending area of the facial canal averages 1.4 m.m. A considerable number of the specimens did not exceed the minimum measurement of 0.5 m.m. by any considerable margin. The wax injection failed to make its escape from the aqueduct of Fallopius into the internal auditory canal, notwithstanding that it did escape from the hiatus Fallopi into the middle cerebral fossa in seven of the specimens, and would probably have done so in all had an injecting material been used that could have been more easily liquefied or that would have remained so longer. Mechanically the track of any infection passing from the mastoid or middle ear along the the facial canal is an easier and more direct one toward the middle cranial fossa than toward the internal auditory canal and thence into the posterior cranial fossa. In removing the large ossicles or on curetting the tympanic cavity two regions should be treated guardedly. There is reason to fear the forcible use of the incus extractor in the region just above the oval window and backward from this toward the floor of the aditus. The other region is that forming the bony posterior wall of the tympanic cavity and adjacent portion of the annulus.

Acute Otitis in Children.

Charles G. Kerley, New York (*Archives of Pediatrics*, October, 1904), reports fifty-one cases from his practice of acute otitis in children brought to operation. Seven of these cases were between three and six months of age; nine were between eight and twelve months; ten between thirteen and sixteen months; seven between twenty and thirty months; twelve between three and six years; six between eight and fourteen months.

In seventeen cases the patients were below the average in strength and development. In thirty-four they were of normal development and in previous good health. In twenty-eight cases both ears were involved. In two a second attack took place, one after three months, the other after five months.

The otitis was associated with, or followed, rotheln, one case; scarlet fever, two cases; measles, seven cases; catarrhal colds, thirty-eight cases. The otitis was primary in three cases.

Pus was found in the middle ear in forty-eight cases; serum in three cases. Bacteriological examination showed: Streptocococci in pure culture in thirteen; staphylococci in pure culture in eleven; streptococci, staphylococci and pneumococci, twelve; staphylococci and pneumococci, six; staphylococci, pneumococci and colon bacilli, one; streptococci and staphylococci, two; pneumococci, two.

Pain and localized signs were present in seventeen cases, absent in thirty-four. In forty-four cases the otitis was uncomplicated; in four there was mastoid involvement; in three jugular bulb involvement.

There was mastoid disease single in three cases—three months, eight months, and eight years; double in one, aged nine months.

Bacteriological examination of pus in the mastoid cases showed pure streptococci in two, streptococci and staphylococci in two. All four cases made excellent recoveries, the wounds closing in from six to eight weeks.

In three cases there was thrombosis of the jugular bulb on one side. In two of these cases the mastoid was found normal upon operation, in the other the mastoid was slightly involved.

Examination of the pus from the ear in the bulb cases showed pure streptococci in two cases, pure staphylococci in one.

In thirty-three of the uncomplicated cases the discharge ceased and the drum closed in thirteen to fourteen days, and in seven cases fourteen to twenty-one days.

In no case were the tonsils sufficiently enlarged to require removal. Six cases had sufficient evidence of enlarged obstruction to suggest the presence of adenoids.

Six of the mastoid and jugular bulb cases followed catarrhal colds, one followed measles. In these complicated cases there was never pain, as shown by crying and restlessness; nor was any sign of discomfort elicited by manipulation. Neither was there evidence of involvement of the deeper bony parts through swelling or deformity.

In only one case, a girl, aged eight years, were there local signs of mastoid disease, a moderate amount of postauricular swelling.

In three of the mastoid cases the diagnosis was made by the continuation of the temperature after the incision of the drum membrane, a prolapse of the posterosuperior wall of the canal and the absence of all other clinical manifestations of an explanatory nature.

In infants and young children the temperature is one of the most valuable aids, and is always present when there is pus confined in the mastoid. In the case with bulb involvement the diagnosis was made by the rapid rise and fall of the temperature, following upon acute streptococcus infection of the middle ear and without other assignable cause for the temperature.

An interesting condition was present in all of the mastoid and sinus cases. The children did not appear very ill. They felt and acted as though they were ill only when the temperature was high. When the temperature was low they sat up, played and were fairly bright. It was difficult in every case to make the parents realize the necessity for operative procedure.

Diagnosis of Middle-Ear Disease.

Arthur B. Duel, New York (*The Laryngoscope*, January, 1905), writes that the symptoms pointing to an extension of a suppurative process from the middle ear to the mastoid cells, or beyond them to the intra-cranial structures, have been so carefully noted that one who is familiar with such conditions is not often at a loss to appreciate the necessity of early operative interference provided there is no concomitant disease in other organs to interfere with the diagnosis. Doubtful physical signs of sinus thrombosis or epidural abscess being present, a high leucocytosis or a blood culture showing the presence of bacteria, might lead one to operate if there were no symptoms pointing to, perhaps, a possible pneumonia; while with any symptoms even vaguely suggesting the pulmonary complication, such an investigation if positive would still leave one in great doubt as to the source of the leucocytosis or blood infection. Duel then reports three cases:

A girl, aged six years, developed an acute left suppurative otitis in the course of a broncho-pneumonia. The patient recovered from the broncho-pneumonia. Mastoiditis ensued and mastoidectomy was performed. Although the anesthetic was chloroform, a violent and incessant cough persisted throughout the subsequent course of the disease. Nothing could be found in the lungs to account for it. For the second day following operation the temperature pursued a typically septic course. The wound looked healthy; there was no pain in the head. The temperature chart was very unlike one of sinus thrombosis. About one week after the mastoidectomy the sinus was explored and a disintegrating thrombus extending from beyond the knee to the jugular bulb was found. After removal of thrombus and jugular vein the recovery was uneventful.

Woman. Grippe. Acute otitis, right and left. Right mastoid exquisitely tender. Paracentesis. Smears showed streptococci and pneumococci (?) from both ears. Mastoid tenderness disappeared in twenty-four hours. Fifty-six hours later the temperature dropped to subnormal with profuse perspiration; a few hours later, with a severe chill, temperature rose to 105.8° F. No physical signs over the mastoid or sinus or along the course of the jugular. Diagnosis lay between a developing pneumonia and thrombosis of the lateral sinus or jugular bulb. Blood count: leucocytosis, 42 000. Septic temperature curve; respiration, 20 to 30, pulse, 100. The next day typically pneumonic sputum was considered sufficient confirmation of the diagnosis of pneumonia, although no further physical signs in the lungs were found. After a few more violent excursions of the temperature, with profuse sweating, the patient made an uneventful recovery without cough or expectoration. A month later both drums were healed; hearing was acute and there was no tinnitus. Duel regards this case as a thrombosis of the lateral sinus, the patient being strong enough to overcome the doses of toxin which were thrown from it into the circulation.

In the third case, twenty-four hours after a mastoidectomy for acute inflammation the temperature rose to 104° F., pulse 120, respiration 20. Leucocytosis more than 20,000. Typical physical signs of pneumonia did not develop until nearly seventy hours later. During this period Duel was anxious about the possibility of intra-cranial extension, although local signs were absent. Later in the same case a septic temperature for ten days, due to a very slow resolution of the pneumonic area in the lung, placed him in grave doubt for a second time.

The Functions of the Tonsils.

Geo. Bacon Wood, Philadelphia (*University of Pennsylvania Medical Bulletin*, October, 1904), advances a new theory as to the functions of the tonsils. While engaged in studying the production of lymphocytes in the tonsil he considered the possibility of also the epithelial lining of the crypts of the tonsils being directly converted into leukocytes. Faucial, pharyngeal and lingual tonsils were all examined and the same relation of epithelium to lymphoid cells found in each. The crypts of the faucial tonsils are not simple imaginations, but the deeper ends are split up into numerous branches penetrating the parenchyma of the tonsils in all directions. Some of these branches are solid sprouts of epithelium possessing no lumen. The most striking and characteristic feature of the cryptal epithelium is the separation of its component cells. The interspaces between the cells are filled with other cells of various form and types, the majority resembling more or less closely true lymphoid cells. In these interspaces are also found typical plasma cells, polymorphonuclear leukocytes and occasionally eosinophiles. There are still other cells which it is impossible to classify. Wood considers three propositions:

1. The older forms of leukocytes are derived by a continuous development from the younger lymphocytes.
2. The lymphocyte is originally derived from epithelial structures.
3. There exists strong histological evidence that lymphocytes are directly derived from the epithelium of the tonsillar crypts.

His conclusions are as follows:

1. That the epithelium of the crypts by amitotic division of its cells exhibits a marked tendency toward constant growth.
2. That the theory of the migration of lymphoid cells from the secondary follicles into the crypts does not satisfactorily explain the presence and character of the cells in the interepithelial spaces.

3. That there exist transitional cells by which all stages may be traced between the epithelial cell and the lymphocyte.

4. That the variation in type of the lymphocyte is most marked in the region of the cryptal epithelium.

5. That the degree of infiltration of the epithelium holds no relation to the cryptal contents. On the other hand, the ingrowing sprouts of epithelium possessing no lumen show as much, if not more, infiltration than the true crypts.

6. That the complete destruction of the cryptal epithelium is a very rare occurrence, almost always a sufficient number of epithelial cells being left to provide an intact barrier along the surface toward the cryptal lumen.

The paper contains detailed descriptiyns of the microscopic findings with six microphotographs and an exhaustive bibliography.

Collodium Dressing for Intranasal Surgery.

C. W. Richardson, Washington (*The Laryngoscope*, September 1904), describes the collodium dressing for intranasal surgery first suggested by Dr. Kasper Prischal, of San Francisco, in 1902. The operative surface, after being thoroughly cocainized and saturated with suprarenal until blanched, is operated upon. After the operation a large piece of absorbent cotton thoroughly saturated with suprarenal is applied over the wounded surface and allowed to remain fifteen minutes. The cotton is then removed and the parts wiped dry. The collodium is now painted over the surface as quickly as possible by means of cotton carrier lightly wound with cotton, that painting being repeated rapidly until quite a film of collodium covers the surface. Blasts of air through the nasal cavity did the rapid evaporation of the ether and setting of the collodium. Richardson has used this method in sixty cases. He finds that patients are decidedly more comfortable, sleep well the first night, feel quite well the second day, and that the wound heals more rapidly.

It is stated that salicylate of soda in a fifteen-grain dose, before breakfast, dissipates a threatened attack of hay fever.—*Med. Summary.*

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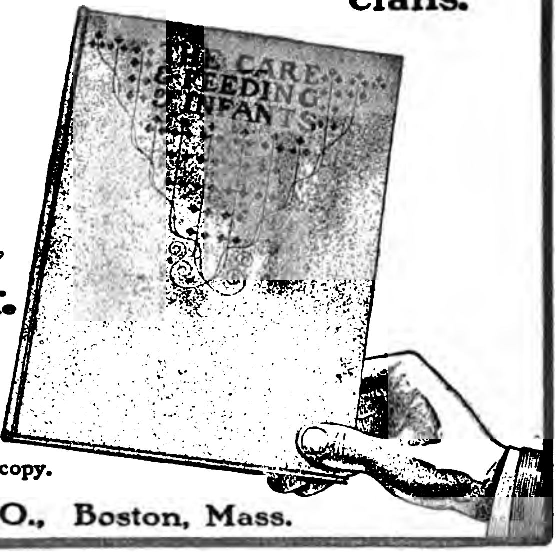
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NEW SERIES VOL. LIV. APRIL 1, 1905. WHOLE VOLUME LXXXXIII

THE TRANSVERSE FASCIAL INCISION FOR OPERATIONS IN THE PELVIS.*

BY EMIL RIES, M.D.,
CHICAGO, ILL.

The incision in the median line for operations in the pelvis is used to-day in the majority of cases wherever an abdominal operation is performed. Its advantages are too clear to need any special enumeration, but it has certain drawbacks in consequence of the peculiar anatomy of the abdominal wall and in consequence of the imperfections of our technique.

The construction of the abdominal wall below the linea semilunaris Spigelii is weaker than above that line. Below the linea semilunaris the sheaths of the recti muscles present their full strength only in front of the muscles, while behind them there is nothing but the weak transversalis fascia and peritoneum. For the union of incisions in the mid-line in this region the through-and-through suture has been pretty generally abandoned, because the number of hernias following was too great (Abel, for instance, reporting 29 per cent. after primary union, *Archiv. fuer Gynækologie* 1898, Vol. 56, 722). Suture in layers gives better results, improving with the perfection of the suture material the accuracy of coaptation of the individual layers and the asepsis of the healing process. If primary union is obtained after suture in layers with a good suture material—as, for instance, cumol catgut—the results are highly satisfactory, Abel reporting only 6 per cent. hernias after cumol catgut sutures in layers.

But our best efforts towards asepsis are sometimes frustrated, be it by some defect in technique or by the conditions obtaining in the course of the operation. The number of hernias is invariably increased after suppuration, Abel reporting between 31 and 68 per cent. of hernias after suppuration following various suture methods. A number of modifications of the median incision have been employed in order to secure more reliable scars, the leading thought being to avoid incision of all layers in the same line. Lennander advises to incise through the sheath of one rectus, then to dissect back the rectus from its attachment in the median line and to enter the peritoneal cavity to one side of the median line. After the suture of the incision in the various layers the intact rectus muscle would then be found interposed as an additional support between the suture of the external sheath and that of the transversalis fascia and peritoneum. Biondi (*Centralblat fuer Chirurgie*, 1895, No. 50) describes a method of operating for umbilical hernia by crossing incisions and sutures in the various layers at right angles, so that skin is cut longitudinally, fascia transversely, muscle longitudinally and peritoneum transversely again. Lennander's method has been used quite extensively, while Biondi, as far as I know, has not had any followers.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11-13, 1904.

There is that much to say about both of these methods, that if suppuration should take place the escape of the pus would be difficult, the suppuration would be liable to be prolonged and invasion of the peritoneal cavity by the infection would be favored.

Another and perhaps minor objection to the median incision was raised by some authors, whose esthetic feelings revolted against the scar in the median line. The modern improvement which I am placing before you to-day is to be traced indirectly to their efforts.

Kuestner (*Monatsschrift fuer Geburtshuelfe*, Vol. 4, 197) substituted since 1896 for the median incision a transverse one placed in or just above the pubic hair, or in stout persons in the fold of skin a little higher up. He made his incision through the skin and subcutaneous fat, dissected the flap of skin and fat upwards, then incised the rest of the abdominal wall in the median line. After finishing the operation, peritoneum, muscle and fascia were united in the median line and the skin and fat transversely as they had been cut. Kuestner obtained thereby an almost invisible scar, and satisfied the demands of esthetically-inclined abdominal surgeons. His incision, of course, does not contribute anything material towards prevention of ventral hernia, because, if the fascia did not unite, the skin over the fascial incision, though not cut and sutured, would not lend any essential support to the scar, as skin alone is never able to protect a defective abdominal wall.

Pfannenstiel, however, saw possibilities in this modification which have increased materially the value of this transverse incision. As soon as he started to use the transverse skin incision, in 1898, he added a feature which promises to make his method a very useful and successful one. This feature is the transverse fascial incision.

Pfannenstiel proceeds as follows: The incision, varying in length according to the case, is made from side to side with a slight curve with the convexity downwards. It is placed along the upper edge of the pubic hair, or in stout persons in the fold formed by the overhanging fat. The incision is carried down through skin, fat and fascia. The fascia is then dissected up with the skin and fat. The fascia is easily stripped from the muscle by blunt dissection, while in the median line it is necessary to cut the fascia from the fibrous tissue extending down between the recti muscles. After the fascial flap is raised in this way the muscles are separated by a median incision and the peritoneum is opened in the same direction. After the operation in the pelvis is finished the peritoneum and muscles are united by running catgut sutures placed in the longitudinal direction. The fascia and the skin are united by figure-of-8 silkworm sutures (*Volkmann's Vortræge*, N. F. 268; *Centralblatt fuer Gynækologie*, 1903, p. 402). It is important that all hemorrhage be stopped carefully before proceeding to suturing, because carelessness in this respect might lead to the formation of hematomas, which, in their turn, might favor suppuration.

The incision can be used for all operations in the pelvis except those for voluminous tumors. In the case of large ovarian tumors it is better to make a longitudinal incision, so as to avoid the necessity of puncturing the tumor because of the possibility of the formation of metastases in the scar if the tumor should be malignant.

The incision can be made long enough to extend on both sides to the inguinal regions, so as to permit of operating—for instance, for inguinal hernia—through the same skin incision. The larger the tumor in the pelvis the higher the incision has to be placed. Additional space is then gained by dissecting the fascia away from the muscle upwards and downwards. The muscles, being stripped of the fascia, resist less than when a median incision is used; they recede like soft bands. The incision then gives ready access to the lateral parts of the pelvis, so that operations on the appendix, for instance, can be performed through the same incision.

When the suture is finished firm compression by bandage is employed in order to prevent any accumulation of blood under the fascial flap.

The result of the operation is that the protecting fascia is not cut at all in the median line and remains as a solid shield over the median line. Where the fascia is cut across, there is solid muscle behind it, so that formation of a hernia would seem almost impossible.

Pfannenstiel mentions that even in two cases where he drained through the point of intersection of the longitudinal and transverse incisions no hernia followed (*Centralblatt fuer Gynækologie*, 1903, p. 409).

Only in one case out of the 207 Pfannenstiel reported in 1903 was there a small gap in the fascia. In this case extensive sloughing had followed an operation for pyosalpinx. Pfannenstiel says—and, I think, correctly—that if such sloughing had taken place after a median incision an extensive ventral hernia would have been the consequence.

The increasing disfavor in which we hold the appendix vermiformis was one of the main reasons why in my own work I have used this suprapubic incision in some cases which otherwise would have been amenable to the vaginal route. I find that this method of the suprapubic transverse fascial incision affords ready access to the appendix as well as the pelvic organs, while at the same time it is almost as safe with regard to hernia as the vaginal operation. I do not know of any hernias following any of my median incisions and primary union, but I do know that there have been hernias after suppuration of the wound. This latter fact also caused me to employ the transverse facial incision, as it promises protection from hernia not only after aseptic healing, but even after infection of the incision.

Within the last few months I have used the method in seven cases for the following operations: Amputation of the tube, salpingoöphorectomy, salpingectomy, salpingostomy, resection of ovary, ventrofixation, intraperitoneal shortening of round ligaments, and appendectomy. The cases have all healed by primary union and there has been great satisfaction on the part of the patients because the incision soon was practically invisible.

I have followed Pfannenstiel's technique, with the only exception that I use catgut throughout and unite fascia and skin separately by continuous catgut sutures. In some cases I have overlapped the two edges of the fascia so as to approximate broad fascial surfaces. This is not generally necessary, because the tendency of the edges of the fascia in the transverse incision is to come together when the abdominal muscles contract instead of separating, as they would do if incised in the median line. This method appears so reliable that as careful a man as Kroenig (*Centralblatt fuer Gynækologie*, 1903, p. 407) ventured to let his patients get up as early as the ninth day, and that he would not hesitate to let them get up on the second day after the operation if he feared lung complications. It may be known to some of you that my patients are allowed to get up as early as they please anyway, and I have not made any exception for those with a suprapubic fascial transverse incision.

100 State Street.

THE ELECTRO-MAGNET IN OPHTHALMIC SURGERY.*

BY ROBERT SATTLER, M.D.,

CINCINNATI.

It is a responsible as well as a difficult task to determine, with convincing accuracy, that a chip of iron or steel, or other foreign body has penetrated and lodged within the deeper confines of the eye. The responsibility is much lessened if the foreign body can be seen or discovered by the aid of one or all the methods commonly employed for diagnosis, which include the ophthalmoscope, sideroscope and X-ray photography, for we are then concerned only with the equally important question of surgical management. With every possible dispatch, however, it must be determined whether prompt interference is justifiable, expedient or imperative.

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* Read before the Academy of Medicine of Cincinnati, February 20, 1905.

If, however, as it more frequently happens, the injury is not a recent one, the history of the accident incomplete, the aqueous and vitreous chambers filled with blood, and it is impossible to discover the presence or location of the foreign body after resorting to every known aid in diagnosis, we are indeed confronted by a vexing and difficult task. It is in such a case that the recent brilliant achievements of X-ray photography, with apparatus specially designed for the eye, furnishes such valuable disclosures. The skiagrams so obtained afford convincing proof for diagnosis, and they direct with equal force and precision the surgical intervention which may or may not be indicated. For that particular class of penetrating injuries of the eye produced by detached particles of steel or iron, X-ray examination is of incalculable importance, for it makes not only the discovery of their presence, but also the more or less exact localization is almost certain.

It is well established that the prompt use of the electro-magnet in such cases may successfully accomplish the extraction of the foreign body, with partial or complete preservation of the integrity of the eye. Success is made more certain if the diagnosis has been re-enforced by accurately taken skiagrams, which disclose definite information concerning the presence, dimensions and location of the foreign body before surgical intervention is resorted to.

The electro-magnet has had for a period comprising almost twenty-five years the steadily growing distinction of being the most useful, and in certain cases, the only justifiable surgical measure for the removal of iron or steel from the interior of the eye. With this instrument a reasonable hope can still be entertained that preservation of useful vision is probable, and if not, that at least its successful use may avert enucleation or evisceration, with their resulting deformity and total extermination of sight.

With the smaller portable electre-magnets formerly used, there were occasional brilliant successes, but there were also many more failures. In the main, this was due to weak and imperfectly constructed magnets; besides, individual and common experience had not yet conclusively demonstrated that during this early period, and with the instruments at our disposal, their use was limited to a small proportion only of this class of injuries. And these were the exceptional ones in which the force which impelled the foreign particle was just sufficient to land it within the eye and suspend it in the vitreous humor, or implant it loosely in the tissues at or near the wound entrance. Here, again, the chances for success were most favorable, if the electro-magnet was resorted to promptly before the foreign body became covered with blood, coagula and inflammatory exudates. Such an occasional gratifying experience would in a measure compensate for failures in other instances, and helped to buoy up our courage and confidence that with greater precision in diagnosis and perfection of more powerful magnets a larger share of success would attend the management of these important cases.

Formerly, if the history of the accident was more or less conclusive, and objective examination and the methods then in use upheld the assumption that a foreign body had entered the eye, but which could not be seen or discovered, the use of the magnet for exploration and possible extraction was looked upon and practiced as a justifiable venture. This, of course, raised hopes for possibilities on the part of surgeon and patient which could be realized only in a small proportion of cases. If it had happened that the force which impelled the foreign body was not only sufficient to drive it into the eye, but out again at an opposite point, with its final lodgment external to it in the orbit, or, if impelled by a lesser force, it was firmly implanted, or probably driven through the sclerotic and firmly held at this point, the use of the magnet in the most skillful hands was almost a certain failure.

For these reasons many surgeons preferred to practice enucleation or evisceration for this class of injuries at once, for the reason that their experience had demonstrated that such unsuccessful explorations with the magnet, and the additional traumatism inflicted, rendered radical measures necessary after all. It should not, however, surprise us that so many failures, but that so many brilliant successes could be attributed to the smaller portable magnets.

In England, Simeon Snell, with the magnet which bears his name, did much to advance our knowledge of its use. This magnet, and one devised after a similar model by Dr. Bradford, were the two which were used by me for many years, with good success in some, and failures, necessitating enucleation, in other cases.

To the perfection of more powerful portable electro-magnets attached to storage batteries, suggested by Hirschberg and others, and the construction of a many times more powerful stationary or giant magnet at the suggestion of Haab, of Zurich, can be attributed the increase of successful extractions of iron or steel from the deeper structures of the eye, which otherwise almost without exception would have necessitated enucleation. An equally important share of credit, however, must be assigned to the greater accuracy—indeed, almost certain precision—in diagnosis, due to the sideroscope, but the main credit belongs to the brilliant achievements of X-ray work. The apparatus which makes this possible is the devised and perfected by Dr. Sweet, and this will be demonstrated to us by Dr. Taylor this evening.

The time is not far off when carefully prepared skiagrams of cases in question will not only aid the surgeon in making the diagnosis of the penetration and lodgment of a foreign body a certain one, but they will also direct the indications pro or con, for the use of the electro-magnet, for they disclose with equal certitude its location within the eye.

For this reason it can be assumed that in the future surgical intervention which has for its purpose the successful removal of a chip of iron or steel will not be considered justifiable until the most complete X-ray examination has furnished every tangible evidence for accuracy of diagnosis, and has determined the location of the foreign body. The latter achievement, the more or less exact localization of the foreign body within the eye, is the most important triumph of the workers in this department of X-ray work. When once accurate shadowgraphs have demonstrated its presence, its localization must be determined with painstaking care and accuracy after careful interpretation and deduction, based on precise measurements and calculations. This can only be accomplished through large experience, and numerous trials by one who has acquired special aptitude for this difficult and responsible task. If the evidence furnished is convincing, the use of the electro-magnet is indicated, for no matter where the foreign body may be located, it is the best known surgical method, which, with the least risk, may save the eye from hopeless ruin. Attempts may fail even after the most complete disclosures furnished by the sideroscope and X-ray examinations, for the reason that the foreign body is surrounded by dense exudates, so that the force of the magnet cannot be spent directly on it; it may also fail after it has been dislodged from its first attachment, and has been brought forward into view for speedy removal, but here it becomes entangled in the elastic tissue of the iris or ciliary processes, and if it is small, may be hopelessly lost to view, and its removal become an impossibility.

A brief report of sveral cases may more satisfactorily illustrate some of the practical points referred to.

The first case was a penetrating injury of two weeks' standing. Chip of iron imbedded in the extreme iris angle, so that its tip only, which was covered with exudate, was visible. Application of the electro-magnet to the walls over the region of the foreign body showed a decided advance forward of the iris and exudate at this point, conclusively proving its presence. A free peripheric incision was made and the magnet applied. The iris was drawn forwards, but the foreign body was so small and so completely enveloped by iris tissues and exudates that it was feared tearing of tissues would result. After several unsuccessful attempts with the magnet to dislodge the foreign body from its hidden recess, it was removed with fold of iris by an iridectomy downwards and inwards. It was found completely surrounded by a tough exudate firmly adherent to the iris tissue in which it was removed. The subsequent termination of the case was favorable and excellent vision was restored.

The second case was referred to me by Dr. O. L. Smith, of Lexington, Ky., who was, unfortunately, at the time of happening of the accident to his patient, not in the possession of a sufficiently powerful magnet. The diagnosis of the presence of a foreign body in the posterior half of the eye had been made by Dr. Smith, and this was confirmed by an X-ray examination of Dr. Roberts. To confirm what had already been done, but mainly to have a more complete guide for the use of the magnet, Dr. Taylor was asked to make the necessary shadowgraphs. They disclosed the presence of, and also localized with great exactness the foreign body in the lower and inner posterior quadrant of the globe very near the equatorial region. The eye was filled with blood and exudates, the injury having been inflicted fory-eight hours before. The foreign body was driven through the sclerotic at the ciliary region about 3 m.m. from the inner and lower margins of the cornea. It could not be seen by the ordinary methods of examination. With the findings of the X-ray disclosures as a guide the foreign body was removed without difficulty after the first introduction of the magnet.

In a third case, a young man, in an attempt to open a box with a chisel and hatchet, the left eye was injured by a penetrating piece of iron, the result of an unfortunate blow. The foreign body had penetrated through the ciliary region of the sclerotic close to the margin of the cornea at its lower border. The globe was filled with hemorrhage. The foreign body could not be discovered. Carefully made and repeated X-ray examination of Dr. Taylor told us that the foreign body was in the eye, and that the force that propelled it had been sufficient to force it high up in the posterior outer and upper quadrant of the globe. It was a question even whether it had not cleared the eye, but careful deductions based on several shadowgraphs taken at different angles forced the conclusion upon us that it was within the confines of the eye.

The exploration of this region of the globe was made with every precaution, and the introduction of the magnet led at once to the discovery of its presence. It was, however, so covered with exudates and hemorrhages, and so firmly held by the continuity of the vitreous body. that direct attraction could not be exerted sufficient to extract it. Numerous attempts were made, but proved purposeless, and the eye was enucleated. Subsequent dissection of the globe proved that the foreign body was small and had been enveloped in a fold of choroid which had been detached by a hemorrhage which separated it from the sclerotic, and this was enveloped in a dense mass of inflammatory exudate, from which the foreign body had to be dissected with force.

The fourth case is interesting mainly for the disclosures of the X-ray examination. A man cleaning a double-barrelled shot gun failed to remember that one barrel was loaded. He received its full charge of bird shot in his face and eyes, and, besides, lost a finger or two. Vision was reduced to light perception in both eyes at once. After several days no external trace of the points of penetration could be discovered on objective examination, but the ophthalmoscope disclosed unmistakable evidence of the penetration of numerous shot, several having remained in the eye, and others having passed out and lodged external to it. In the left eye the entire lower half of the retina and choroid was detached, and this eye is hopelessly disabled. In the right eye numerous shot entered and lodged; others passed through and cleared the eye, and became imbedded in the tissues of the orbit, but without doing any serious damage. He has recovered good vision of the right eye, and it is probable that the lead implanted will not become intolerant to the tissues.

If we admit that X-ray examination after the method and with the apparatus devised by Dr. Sweet is both necessary and invaluable for an accurate diagnosis, there remains only brief reference to the choice of one or the other of the electro-magnets at our disposal.

The smaller portable electro-magnets have been replaced by larger and more powerful ones connected with storage batteries. Besides, we have larger and heavier ones which cannot so easily be transported. They are attached to larger storage batteries or to an electric power circuit. We have also the giant or large stationary magnet, which, owing to its size and great weight, cannot be moved about. The credit belongs to Prof. Haab, of Switzerland, for having directed the construction of this extremely useful instrument. It is known as Haab's giant magnet. Hirschberg, Volkmann and others in Europe and in this country have designed similar models, some of greater, others of lesser power than the former one, but the original Haab magnet, with recent modifications of its tip, fulfills every needful purpose. The point or end-piece of the giant magnet is not introduced into the eye. The patient is so placed that its attractive force is exerted through the tissues or tunics by bringing its tip in very close contact with it. For this the centre of the cornea is commonly selected, or any other locality which, in the judgment of the surgeon, may be more advantageous, from his knowledge of the location of the foreign body. The purpose of this is to dislodge or lift it from its concealed deeper hiding place and bring it forwards, so that it can be seen, and finally to land it in the aqueous chamber, from which it can be removed with a magnetized spatula or probe, and other instrumental interference. It is not possible to accomplish this in every case. If the chip of steel is small, sharp and angular, the sudden and great force of the magnet drags it through and tears the elastic pigmented tissues of the ciliary processes and iris, where in the end it may become hopelessly entangled, and will elude all further discovery and attempts at removal. But many successful extractions of foreign bodies from the retina, optic nerve entrance, and other concealed localities of the posterior half of the eye have been accomplished, and their number can only increase in the future.

The advantage of the smaller portable magnets is their easy transportation, and that they are within reach of every one. Their point, which does not become so quickly heated, must in most instances be introduced into the eye, although this is not always necessary. They are also of great service in aiding the final extraction of a fragment which the giant instrument has brought forward into view, but which with the smaller one can be removed with lesser violence and traumatism to the tissues. This fact is admittedly true—the more powerful the magnet, the greater the chance of the successful removal of the imbedded fragment.

(For discussion see p. 385.)

PENETRATING WOUNDS OF THE EYEBALL, WITH PRESENTATION OF SPECIMENS.*

BY FREDERICK W. LAMB, A.M., M.D.,
CINCINNATI.

The following series of specimens illustrate some of the various changes produced in the eyeball by penetrating injuries. In order that the specimens may be more readily understood, a brief history of each case accompanies the specimen. Taken collectively, they show acute inflammation of every structure of the eyeball from cornea to optic nerve, chronic inflammation of many structures, as well as detachment of the various coats, glaucoma, etc.

CASE I.

This specimen was removed by Dr. Vail from a man who was struck in the right eye by a small piece of steel three years previous to his admission to the City Hospital. According to the statements of the patient, the eye became blind immediately after the injury, and was painful and inflamed for several weeks. During the entire three years following the injury he had numerous attacks of pain, tenderness, and inflammation in the eye, and for several months immediately preceding his admission to the hospital he had had attacks of sympathetic irritation in the uninjured eye. The injured eye was therefore enucleated.

The specimen shows a small piece of steel embedded in the iris. The lens is almost entirely absorbed, but on close inspection a thin layer of lens substance is seen just posterior to the iris. The rest of the eye is apparently normal, the two areas of detached retina being due to the action of the hardening fluids. Microscopically, the principal and almost the only lesion is an iritis. The foreign body near the pupillary margin is well shown. The iris is swollen and contains an increased number of small round cells—ordinary inflammatory reaction. The thin layer of lens substance is seen posterior to the iris; in one area the anterior and posterior capsules are in apposition. The other structures are normal, aside from a moderate amount of atrophy of the ciliary body and choroid.

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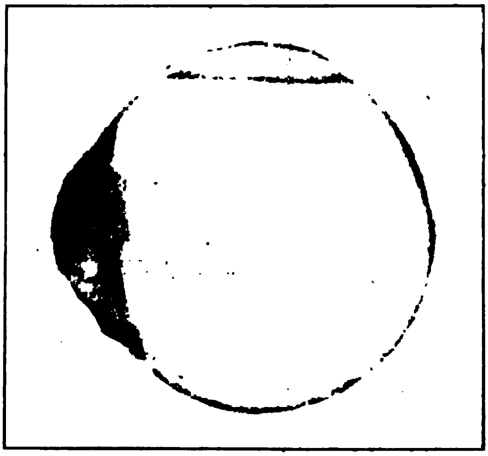
* Read before the Academy of Medicine of Cincinnati, February 20, 1905.

CASE II.

This specimen was removed from a man whose left eye had been penetrated by a bird-shot. The eye was tender, painful, blind, and the seat of recurrent hemorrhages for four weeks after the injury, at which time it was removed by Dr. Vail at the City Hospital.



Case I.

The specimen shows complete detachment of the retina, hemorrhage and exudate in the vitreous and partial absorption of the lens. No shot was found in the eyeball.

Microscopically, the cornea is normal, but the conjunctiva at the limbus shows inflammatory reaction. The iris and ciliary are also infiltrated with small round cells. The dense pigmentation of the iris stroma is a noticeable feature here. This eye was removed from a negro. As is well known, the pigment on the posterior surface of the iris is of more or less uniform thickness in all eyes, but the pigment in the stroma of the iris varies considerably with the individual. Where the pigment is scanty the eye is blue, because the pigment on the posterior surface is
seen through the strom
pigment of the stroma is p
amount, as here, the eye
The principal lesion in thi
choroid. There is a very
round cell infiltration of th
The choroid is intensely sw
vessels dilated and filled w
retina also shows extensiv
and degenerative changes.
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This patient develope
ophthalmia in the right e
after enucleation of the left
recovered with perfect vis
care of Dr. Sattler at the
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was removed and a portio
nerve embedded in cicatric
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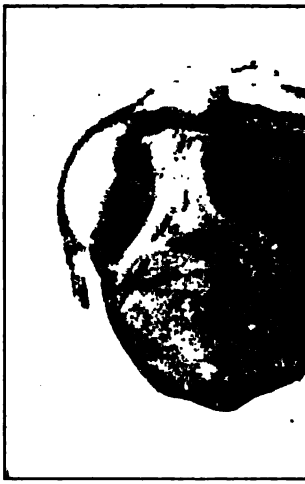


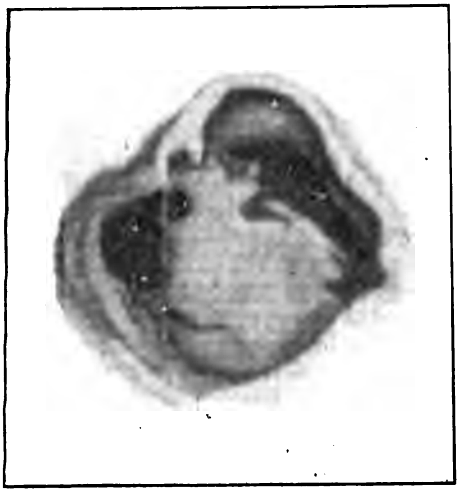
Case II.

CASE III.

This specimen was remov
penter, who was struck in
a 20-penny nail which slipp
his hammer as he was dri
into an oak plank. The n
the eye at the outer sclero-c
causing a square hole abo
each side. Considerable vit
the pupil drawn toward t
vision reduced to perception
The wound was sutured a
diate result good, but the

nderwent atrophy, becoming soft, tender nd painful. Some symptoms of sympathetic ophthalmia developed, and therere the eye was removed six weeks after e injury. This eye was also enucleated y Dr. Vail at the City Hospital.

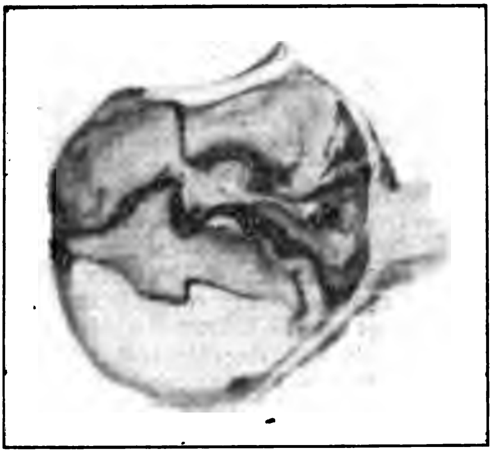
The specimen shows atrophy of all the ructures of the eye. The entire globe diminished in size, the retina detached, e lens partially absorbed and the vitres chamber contains some exudate. The is is in contact with the lens on one side the pupil, while on the other side it incarcerated in the wound. There is tachment of the ciliary body and par l detachment of the choroid on the side osite the wound, and these detached ctures, together with the iris and par ly absorbed lens, are drawn toward region of the wound by the contrac n of the plastic exudate. Microscopic , the cornea is normal, the iris shows mall amount of inflammatory reaction, e iris pigment is seen on the ante capsule of the lens, and its place detachment from the iris is shown. region of the wound shows newly ned connective tissue and new bloodsels. The retina is atrophied and de erated.



CASE III.

CASE IV.

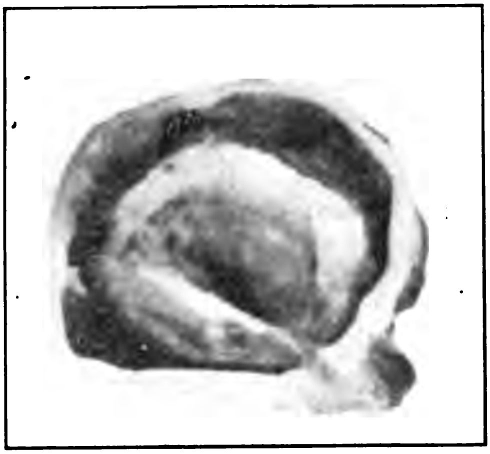
his specimen was removed from a pa t referred to me by Dr. Metz, of Madi ville. The injury was caused by the ex sion of a giant firecracker, a large piece of which struck the patient in the right eye. This eye presented the most extensive laceration of the cornea I have ever seen, extending entirely across the cornea horizontally and for some distance into the sclera. A second tear extended from the centre of the cornea down and out to the sclero corneal margin. Fully one-half of the iris was prolapsed and blood was continually oozing through the wound. The question of a foreign body within the globe did not arise, as the eye was hopelessly lost whether a foreign body was present or not. I therefore sent him to the Presbyterian Hospital and enucleated the eye the following day. On sectioning the eye after hardening, a large piece of glass was found in the anterior portion of the globe. Further inquiry elicited the fact that the patient was wearing glasses at the time of the accident.



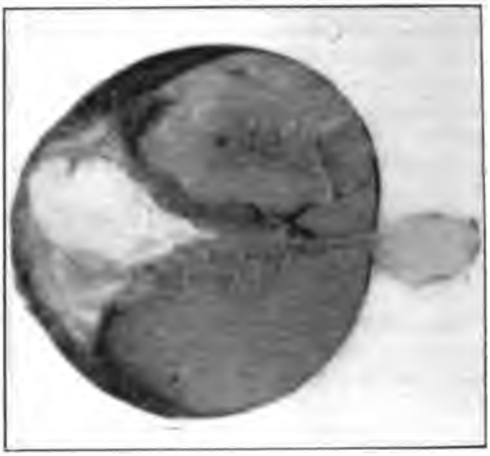
CASE IV.

The specimen shows obliteration of the anterior chamber, what is left of the iris lying in contact with the cornea. A few shreds of lens substance are seen just posterior to the iris. The space in the anterior part of the specimen, which at first glance may appear to be the lens, is the space where the piece of glass was found. There is complete detachment of the retina and extensive hemorrhage and exudate in the vitreous.

Microscopically, the cornea shows very extensive changes. The anterior layers of the substantia propria show evidence of degeneration, acute inflammation and



CASE V.



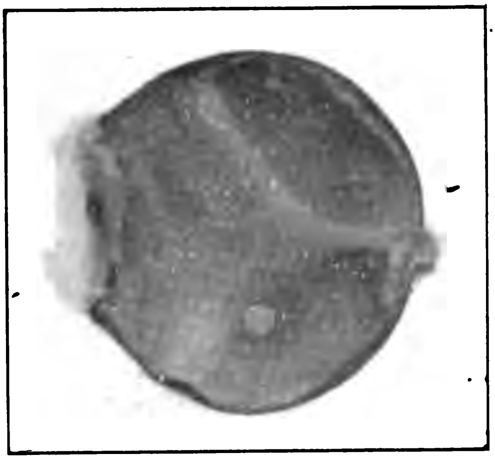
CASE VI.

infiltration with red blood cells. This blood evidently came from the scleral vessels by diapedesis or actual rupture, and filtered its way into the cornea. The iris is intensely congested and in contact with the cornea. The ciliary body is badly dilapidated and shows acute inflammatory changes. The retina is detached and shows intense infiltration with small round cells and degenerative changes. The choroid is swollen and congested. The vitreous contains hemorrhage, serous and fibrinous exudate.

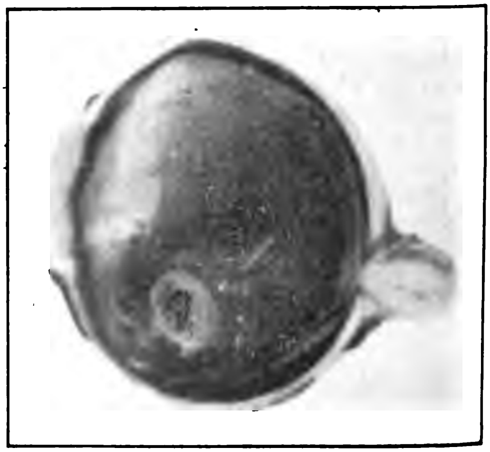
CASE V.

This specimen was removed from a man whom I saw at Hamilton, O., in consultation with Dr. E. H. French. The patient had been struck in the right eye by a piece of steel about ten days before I saw him. There was intense edema of the lids, chemosis, hypopyon, iritis, increased tension—in a word, panophthalmitis. He was removed to Mercy Hospital, where I enucleated the eye.

The specimen shows the entire pupillary margin of the iris adherent to the lens, the peripheral portion pushed forwards. The pupil is occluded, and the anterior surface of the iris is covered with plastic exudate. The retina and choroid are detached and the vitreous contains a large amount of plastic exudate, in the anterior portion of which is the lens, barely dis-



CASE VII.



CASE VIII.

tinguishable. Microscopically, the cornea shows extensive degeneration in the anterior layers of the substantia propria, similar to that of the preceding specimen. The anterior chamber contains exudate. The iris is inflamed and the peripheral portion is adherent to the cornea. Posterior to the iris is a large mass of exudate, consisting of small round cells and fibrin. The ciliary body shows a considerable amount of inflammatory reaction. The detached retina is very largely disorganized, and in some places infiltrated with small round cells, especially about the nerve head. The choroid is very much swollen and edematous. The optic nerve is acutely inflamed.

CASE VI.

This specimen was removed from a man who was struck in his left eye by the limb of a tree. Two days after the injury the eye became very painful, inflamed and blind. He has never had vision in this eye since. When first seen by Dr. Vail, four years after the injury, the eye was intensely inflamed, very tender, tension minus 2; dense leucoma adherans present. The eye was enucleated by Dr. Vail at the Presbyterian Hospital.

The specimen shows complete obliteration of the anterior chamber, the iris being adherent to the cornea; a very intense plastic and hemorrhagic cyclitis, complete detachment of the retina and partial detachment of the choroid. Microscopically, the cornea shows extensive round-cell infiltration in the sub-epithelial layers. The iris is atrophied and adherent to the cornea throughout almost its entire extent. The ciliary portion shows some inflammatory products. A dense, partially organized exudate fills up the pupillary area and the entire anterior part of the eyeball, binding the cornea, iris and lens together. In the region of the ciliary body, and just posterior thereto, the exudate is distinctly hemorrhagic. The choroid is inflamed, especially the anterior part. The retina is degenerated.

CASE VII.

This specimen was removed from a man who was struck on the left eye twenty years ago, knocking him senseless, but the vision was not affected at that time. Fifteen years afterward he noticed failing vision in this eye, and consulted a prominent oculist of this city, who told him he had a cataract and operated for it. The eye has been subject to recurrent attacks of pain and inflammation ever since. When I saw him there was intense ciliary injection, a cystoid and bulging scar at the upper margin of the cornea, where the incision had been made for the cataract extraction. The cornea was hazy, anterior chamber very deep, lens absent, coloboma of iris upwards; red reflex not obtainable, tension plus 3, vision perception of light. Diagnosis: Chronic inflammatory glaucoma. I sent him to the Presby terian Hospital and enucleated the eye.

The specimen shows a bulging scar at the upper sclero-corneal margin, absence of the iris just below this due to iridectomy, absence of lens and a small amount of exudation in the vitreous. It also shows very beautifully the cupping of the optic disk, due to the increased intra-ocular tension. On close inspection a faint brown line is seen extending across the head of the optic nerve about on a level with the outer surface of the sclerotic coat. This is the bottom of the glaucomatous cup. There is seen on the external surface of the eye a ciliary staphyloma, also due to the increased intra-ocular tension. This staphyloma was directly beneath the internal rectus muscle and just posterior to its insertion, and it required some delicacy of manipulation not to puncture the eyeball at this point during the enucleation. The dark color of the staphyloma and the faint bluish-black color of the entire sclera is due to atrophy and consequent thinning, allowing the choroidal pigment to shine through. Microscopically the cornea is normal, except at its upper margin, at which point the cystoid cicatrix is seen. The irregular opening of the corneal tissue in which a portion of the capsule of the lens is entangled is beautifully shown. The presence of this capsule in the wound undoubtedly accounts for the imperfect healing in this case. The iris is absent on this side; on the other side it shows an increased number of small round cells. The ciliary body is very markedly atrophic. The choroid and retina do not show any marked changes. The optic disk shows the glaucomatous cup, which is partially filled with exudate. The optic nerve shows atrophy.

CASE VIII.

This specimen is one I presented to the Academy about two years ago. I present it again this evening in order that you may compare it with the others. This eye was removed from a little boy, referred to me by Dr. W. C. Schmidter. The injury was caused by a piece of iron which flew from a cooper's chisel and struck him in the left eye. The foreign body passed through the cornea, iris and lens. Three days after the injury symptoms of panophthalmitis developed, namely, hypopyon, a yellowish sticky looking exudate about the pupil, and a yellowish pupillary reflex with the ophthalmoscope. I advised enucleation, and Dr. Sattler, who saw the case in consultation with me, concurring in this opinion, I sent the patient to the Presbyterian Hospital and enucleated the eye.

On sectioning the hardened eyeball I was so fortunate as to cut directly down on the foreign body, but in doing so I slightly dislodged it from its bed just back of the ciliary, and it is now seen somewhat displaced from its original position close to the sclera. In addition the specimen shows a small blood clot just posterior to the foreign body. The wound in the cornea and lens is visible; the iris, lens and ciliary body are matted together in a mass of exudate, which is also seen extending back through the vitreous.

(For discussion see p. 385.)

CANCER OF THE RECTUM TREATED BY SIGMOIDO-PROCTECTOMY.*

BY GEORGE W. ROBERTS, PH.B., M.D.,
NEW YORK, N. Y.

A proposed surgical operation for the treatment of cancer in any portion of the body has for its objects a low operative mortality, a low percentage of post-operative morbidity, and a high percentage of ultimate cure, as evidenced by complete eradication of the disease and absence of recurrence judged by the three-year rule. These results seem at the present time to be dependent upon: First, early operation; second, the anatomical isolation of the organ affected; third, accessibility of the neighboring lymh-vessels and nodes through which the growth usually extends; and fourth, the necessity of the involved organ to the human economy.

As illustrations of these principles, attention is called to the comparatively favorable prognosis in early cancers affecting the mammary gland, the uterus—particularly its body—and the stomach, and the comparatively unfavorable prognosis in cancer of the tongue, the extremities, the larynx, the billiary apparatus, etc. In other words, if the disease is recognized early, the organ affected is one of comparative anatomical isolation, with a lymph supply which converges to circumscribed and accessible lymph nodes, the prognosis of early complete operation is favorable; while those cancers which affect organs not anatomically isolated, and having lymph streams flowing in more than one direction, or toward inaccessible glands, the prognosis is unfavorable.

These principles have been illustrated and proven by the magnificent accomplishments of Halsted, Kelly, Cullen, and others. Thanks to the painstaking work of our pathologists, we are now in possession of a clear idea of the routes through which cancers extend, and we are obliged to conclude that *early* recurrence at least is the result, not of constitutional conditions like the so-called "cancerous diathesis," but rather of the continued progress of the local disease, due to incomplete extirpation either of the primary growth, or, more often, of some of the infected lymph nodes.

In approaching the subject of cancer of the rectum, while it may not at first appear, it is a fact that the rectum is an anatomically isolated organ; that its lymphatic system converges mainly at one easily accessible point, and that its function is not one of absolute necessity to the human economy, and therefore we are emboldened to consider it one of the more favorable sites for operative efforts like complete extirpation, and we look with great hope upon the ultimate result of our operations for its removal.

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* Read before the Ohio Valley Medical Association, Evansville, Ind., November 9–10, 1904.

In the upper part of its course the rectum, as well as the entire sigmoid, is isolated by being quite free in the pelvic cavity, except as held by the meso-rectum and meso-sigmoid. In its middle and lower portions it is surrounded by a layer of rather loose cellular tissue, and its only close association with other organs is at the base of the bladder in the male, the posterior wall of the vagina in the female, and its attachment to the levator ani and the sphincter ani. Its lymphatics for the main part find their way directly to the sacral lymph nodes through the meso-rectum and the cellular tissue in the sacral hollow, which are themselves isolated and accessible in that they all lie below the bifurcation of the aorta, posterior to the peritoneum, in the loose cellular tissue occupying the sacral hollow. It is true, however, that some of the lymphatics from the lower end of the rectum find their way to the inguinal glands, and for this as well as other reasons carcinoma at the anal margin is far more fatal than carcinoma the inferior limit of which does not approach within an inch and a half of the anus. The blood supply of the rectum also is both isolated and accessible, by far its largest supply coming from the superior hemorrhoidal and only a very little through small branches of the middle and inferior hemorrhoidals, and that near the anus.

The history of the surgical treatment of cancer of the rectum has been so thoroughly written and re-written within the last two or three years that we need only refer to the more recent text-books upon surgery of the rectum, notably those of Tuttle, Gant and Mathews, the exhaustive work of Quenu and Hartmann in the French, and the more recent résumé by Dr. Charles H. Mayo. The essence of this history may be expressed in few words as follows:

The operation, modified and popularized by Kraske and bearing his name, has been of more wide use than any other. The French surgeons, however, have developed to a high degree the perineal and vaginal methods of attacking cancer of the rectum, while in both Germany and France there has been a tendency to supplement the perineal operation with an abdominal incision, but this in the bad cases only. It is only in very recent years and by few surgeons that any marked attention has been paid to combined abdomino-perineal operations.

I have the pleasure of presenting to the society a technique for a combined abdomino-perineal and abdomino-vaginal operation, which has been developed, first, independently; and second, by the suggestions of many operators, plus the experience of my own cases.

In preparing the patient for operation we avoid the use of cathartics, in order not to deplete and exhaust the patient; we urge the use of large quantities of pure water during the two days preceding operation, and we insist that the local preparation be completed on the day previous to operation, in order that the patient may reach the operating table and the operation begin without wetting the body or the towels surrounding the field of operation.

A liberal incision is made in the median line of the abdomen, and through it the liver and other abdominal organs are examined. Secondary carcinoma having been excluded, a second incision is made on the left side of the abdomen, slightly above and considerably internal to the anterior superior spine of the ilium. This incision is fashioned after the plan of the McBurney incision for appendicectomy, and is not over an inch and a half in length, involving, of course, all layers of the abdominal wall. A third incision of similar size, but involving skin only, is placed about two inches and a half below and internal to the second incision, and the bridge of skin between the two is quickly lifted by blunt dissection. A pair of long-handled clamps is introduced into incision number three, carried up under the bridge of skin and introduced into the abdomen through the deeper portions of incision number two. Using these clamps as a lever, skin incision number three is displaced upward, the deeper layers of incision number two are displaced downward, so that the jaws of the forceps project well into the peritoneal cavity. Their handles are now turned over to the assistant, and, guided by sight through the central abdominal incision, the surgeon selects a portion of the upper sigmoid having a mesentery long enough to permit its being drawn down through the two lateral incisions without undue tension. The forceps now grasp this portion of the sigmoid at right angles, a moderate-sized hole is torn in the mesosigmoid at this point, and a second pair of forceps, of similar shape and size, introduced through the median incision, grasps the sigmoid parallel to, and slightly below, the first forceps.

After taking pains to see that the clamps are accurately adjusted, are near together and exactly parallel, and that the surrounding structures are walled off with sterile gauze, the sigmoid is cut across with a sharp scalpel close to, and just below, the upper clamps. The lower edge of this clamp is immediately wiped vigorously with sterile gauze, the peritoneum of the mesentery is slightly nicked, if necessary, and the clamp withdrawn and allowed to hang upon the gut end which now extends through the deeper layers of incision number two, underneath the bridge of skin, and projects slightly through incision number three. During this last procedure the second pair of clamps, holding the incised end of the large intestine which is to be removed, should have been carefully isolated by sterile gauze.

Protecting now the portion of the field occupied by the second and third incisions, the gut end and the clamps, we return to the central incision, wall off carefully the entire upper abdomen with gauze and bolsters, and proceed to ligate the mesosigmoid in sections and to cut the sigmoid free from it, the line of our incision extending backward and downward toward the promontory of the sacrum. As these successive sections are made, the upper end of the amputated segment, held by the second pair of clamps, is gradually drawn out of the abdominal cavity and thus farther away from the danger of producing infection. Quite a wide space will be found in the meso sigmoid below the last branch of the sigmoid artery and between it and the superior hemorrhoidal. When this space has been reached, mass ligation of the meso-sigmoid should cease and with blunt scissors we incise the right peritoneal layer of the meso-sigmoid and meso-rectum close to the rectum, our incision extending down to where the rectum disappears in the pelvic floor, around in front of the rectum, between it and the posterior vaginal fornix in woman, and between it and base of the bladder in man. This incision having been carried around to the front as far as practicable, is met by an incision of the left peritoneal layer of the meso-sigmoid and meso-rectum made in similar manner. The joining below of these two incisions, as described, results in a long U-shaped incision of peritoneum only, the limbs of the U being directed upward, and the bow of the U downward and surrounding the rectum at the point of its disappearance into the pelvic floor.

Now, grasping the cut edge of the right peritoneal layer of the meso-sigmoid with forceps (and using blunt dissection with an occasional snip of the scissors), it is lifted up from the cellular tissue and from the hollow of the sacrum as a thin flap, absolutely free from fat and lymphatics. The left peritoneal layer of the meso-sigmoid is treated in similar manner, and beginning high up on the posterior sacral wall near the promontory, the cellular tissue, fat and a mass of lymph nodes, constituting the sacral plexus, are wiped downward, using moist gauze as a dissector. This act will be easily accomplished, and we shall not have proceeded far when the superior hemorrhoidal artery, together with one or two large veins, will come plainly into view. These structures are carefully double ligated, and from this point on the pelvis will be found to be practically bloodless.

The whole hollow of the sacrum, together with the fat, lymphatic structures and cellular tissue forming the deeper portions of the meso-sigmoid and meso-rectum, are now wiped forward and downward toward the rectum and the whole mass pulled farther out of the pelvic cavity. This process proceeds until, having passed below the point where the rectum disappears in the pelvic floor, the fingers meet the coccyx behind, the bladder or posterior cul-de-sac of the vagina in front, and it is then found that this portion of the rectum is only held by comparatively strong cellular tissue on the sides. This cellular tissue must be cut rather freely with the scissors, but these scissor cuts are not accompanied by material hemorrhage.

It will now be found that the rectum is free down to the layer of pelvic fascia above the levator ani muscle, and from this point on the operation will vary according as to whether the subject is male or female. In the female an assistant introduces a pair of clamps into the vagina and makes them prominent in the posterior cul-de-sac, when he spreads the blades and the surgeon cuts between them, making a longitudinal incision of good dimensions into the posterior cul-de-sac from above. The surgeon now introduces the isolated end of the gut into the vaginal incision and forces it well down into the vagina, where it is grasped by the forceps of the assistant and drawn out through the vagina, thus leaving the pelvis empty of sigmoid, rectum, pelvic fat, lymphatics, blood-vessels, and other structures supplying the rectum.

We now proceed to sew together by a rough lock-stitch of catgut the two flaps of peritoneum which originally formed the sides of the meso-sigmoid and -rectum. This forms a peritoneal shelf stretched across the pelvic cavity, but still loose enough to approximate the pelvic wall when the intra-abdominal pressure is restored. The abdomal toilet is completed and the abdominal incision closed according to custom.

In the male it is necessary to invert and quickly stitch the gut end, which is then dropped back into the pelvis and forced well down posteriorly in front of the coccyx, but behind the lower end of the rectum. We have sometimes left a short pair of forceps attached to this end, but we do not regard this as necessary.

The peritoneal shelf is then sutured over the mass, the abdomen closed as described before.

The patient is now placed in the lithotomy position. In the case of a woman we find the upper end of the sigmoid and rectum protruding from the vulva, and there only remains the enucleation of the third portion of the rectum. This is most easily and thoroughly accomplished by beginning an incision at the opening from the pelvis into the posterior vaginal cul-de-sac. This incision is carried straight down the median line of the perineal body and skin surface of the perineum, around the anus on either side and up the median line posteriorly, to the tip of the coccyx. The incision involves all structures to the rectal wall, completely severing the perineum. Retractors are inserted on either side, the anal opening is closed with a large clamp, the rectum is rapidly dissected free up to the insertion of the levator ani. This muscle is cut with scissors and a complete removal of the mass is effected by the use of scissors, with the aid of strong traction and blunt dissection.

In man the perineal incision begins about an inch and a half in front of the anus, encircles the anus, extends upward to the tip of the coccyx and up beside the coccyx to the right. Energetic dissection with the scissors, with temporary clamping of bleeding points, soon brings us to the levator ani posteriorly. This is cut; the fingers, finding their way to the tip of the coccyx, easily break through into the pelvic hollow, grasp the upper end of the rectum and pull it through the posterior opening. From this point the removal is completed as described above. In the course of this removal the seminal vesicles and prostate are generally exposed, and care must be taken not to injure them. If artery clamps are applied temporarily as the perineal dissection proceeds, the the loss of blood will be very insignificant. After the clamps are removed any bleeding vessels are re-clamped and tied, and the perineum is partially closed by interrupted silkworm-gut sutures.

We find it advisable to extend the incision well back beside the coccyx, not only because this facilitates quick removal of the rectum, but because it affords better drainage of the pelvic hollow after the operation, a large drainage-tube being employed to keep the sub peritoneal pelvic cavity free of serum and blood.

This portion of the operation having been completed, if the patient is in good condition we return to incisions numbers two and three, suturing the skin portions of the former and completing the artificial anus by attaching the cut edge of the gut to the latter skin-wound.

We try to so arrange the dressings, by the use of guttapercha tissue fastened to the abdominal wall with a little chloroform, that our central incision and the artificial anus are isolated from each other. In this way the wounds are kept clean and healing by first intention will usually occur. When recovery is complete we control the artificial anus by the use of a circular pad and bag attached to a spring truss.

Up to the present time we have operated five cases according to this method.

Case I.—Mrs. R., aged forty seven.

Cancer extending from one inch above the anus to a point ten inches higher. Operation January 10, 1902. Present condition that of apparent perfect health. Control of artificial anus entirely satisfactory.

Case II.—Mr. L., aged forty-two. Very cachectic and in bad condition. Cancer about three inches in diameter; its lower limit about four inches from the anus. Operation May 5, 1902. Present condition that of apparent perfect health. Anal opening not judiciously placed. Control of anus very satisfactory, but suffers from moderate prolapse of gut.

Case III.—Mr. D., aged twenty-nine. Bed-ridden. Very cachectic. Inguinal glands much enlarged. Had suffered from long-continued intestinal obstruction and colotomy had been performed by another surgeon. Operation October 15, 1903. Immediate result, marked improvement so that patient was up, went home to his family and lived about ten months, dying from recurrent carcinoma, which was said to have involved much of the abdominal contents.

Case IV.—Mr. X. Operated in the hospital in Washington, D. C. Thin and cachectic; the rectum filled with a large cancerous mass which was removed with great difficulty on account of the unusually short antero posterior diameter of the pelvis. Operation performed in unfamiliar surroundings and with assistants who were excellent, but untrained in this particular operation. Patient died on third day from colon bacillus infection. After operation it was discovered that a rent had been made into the gut and had passed unnoticed.

Case V.—Mrs. W., aged forty-seven. Patient weak and thin. Operation July 8, 1904. Recovery uneventful. Present condition that of apparent health.

The results of these operations are an immediate mortality of 20 per cent., with three patients still alive, two of whom are nearing the three-year limit and in health. Considering the hopelessness of this condition, the enormous operative mortality of the Kraske method, together with a large percentage of recurrence within a short time, we think that these results, although covering such a small number of cases and our having watched them over so short a period, offer us great hope for the future. We do not believe that the immediate mortality after the technique of the operation has been developed should exceed from 5 to 8 per cent. The ultimate mortality must be dependent upon the completeness of the excision and the early date of the operation.

We consider the principal question for discussion now to be whether or not such a radical procedure as that described should be inaugurated in every case of cancer of the rectum. We believe that if cancer of the rectum is viewed in the same light as we now view cancer of the breast, we could very wisely abandon the more simple partial resection with preservation of the perineal anus for some procedure which has for its object the complete removal of the organ, together with lymph nodes and other structures occupying the hollow of the sacrum.

DISCUSSION.

Dr. Schaff: The details of this operation that were given are very difficult to judge as to their simplicity or complexity, so I would not like to say anything in reference to that. It is very graphic, and would lead one to believe it was a complex operation. There is certainly ground for a radical operation for cancer of the rectum, and if Dr. Roberts' operation will give us an operation that has even less mortality than the Craske operation, even though it is no more simple, he has made a great advance. If he has given us one that is even more complex, and the mortality is lower, he has still made a great advance over the Craske operation. His operation is certainly tedious. There is one thing that we do not do as much as we should do, and that is to give the case a most careful examination to determine whether we can give the radical operation or whether we cannot give it. We may remove some of the growth of the lymphatics without removing all. I think this is extremely necessary in order to avoid the misunderstanding that lies between the doctor and the patient. He does not make it clear enough as to whether or not the radical operation would be justified. I think we should do anything that will make a patient's life more bearable, and help them along. We should be very emphatic with the patient and let them understand what we mean by a radical operation. When we go to make an operation for a disease it is not with us, for it has passed beyond the realm of being totally removed, and it is simply a question of making life more bearable and helping the patient along.

Dr. Roberts: First, in regard to the simplicity of this operation. I do not wish to try to convince anyone that it is a simple operation. It is not an easy operation, but it is one that the fairly equipped worker should be able to perform in one hour and a half. The first one I undertook took me three hours and a quarter, and the last one two hours, but I want to bring it down to one and one-half hours. You are in the immediate neighborhood of infection at all times, and you should be extremely careful.

Now, as to the comparative mortality of this operation, I wish to say this. Professor Craske's operation is a good one. He has combined his with another operation. I think it is the abdominal sacrum operation. I find that this is not necessary. If you think of trying this operation I want to say to you, do not think of the hemorrhage. If you do as I have suggested in my paper and then have hemorrhages you may hold me responsible. When you have tied the vessels of which I spoke in my paper you have tied nine-tenths of the blood supply. Do not forget this. (Applause.)

RECENT ILLUSTRATIVE EXPERIENCES IN ABDOMINAL SURGERY.*

BY CHARLES A. L. REED, A.M., M.D.,
CINCINNATI.

Case I.—"Chronic dyspepsia" due to perigastric adhesions and pyloric insufficiency; posterior gastro-enterostomy; recovery.

Case II.—Tuberculous peritonitis; traumatic ileus; preliminary enterotomy; secondary resection of intestine with enterostomy; recovery.

Case III.—Surgical kidney complicated with nephroptosis; extirpation of kidney; recovery.

Case IV.—Abdominal pregnancy of four years and nine months' standing, complicated with fibroid of the uterus; operation by marsupialization; recovery.

Case V.—Gall-stone history of fourteen years' standing; perforative cholangitis with extravasation of bile into peritoneum; operation; recovery.

Case VI.—Retroperitoneal cyst complicated with chronic appendicitis; laparotomy; recovery.

Case VII.—Uterine myoma complicated with pelvic suppuration and universal adhesions; supravaginal hysterectomy; recovery.

Case VIII.—Chronic atrophic appendicitis; appendectomy; recovery.

Case IX.—Advanced carcinoma uteri; abdominal panhysterectomy; recovery.

Case X.—Umbilical hernia; operation by the overlapping method; recovery.

I beg leave to present brief records of several cases that I have selected from my work during the last month, because I believe each of them teaches a more or less instructive lesson.

CASE I.

"Chronic Dyspepsia" Due to Perigastric Adhesions and Pyloric Insufficiency; Gastro-enterostomy; Recovery.

The first case that I wish to report is one which, fortunately, yielded no specimen. It is that of a young woman of about twenty-nine, who came to me complaining of painful digestion. She was in apparent good health, but insisted that during the last six years life had ceased to be worth living because she could not eat without incurring extreme pain, which generally began within an hour after taking food and continued until the stomach was emptied, either in the ordinary course of digestion, or, frequently, by vomiting. The pain was of a boring kind, and was generally experienced with greatest intensity in the pit of the stomach. Frequently, however, when the stomach was distended another pain would be experienced; it was described as sharp, cutting, at times cramping and often centered in the left side near the margins of the left ribs, extending thence around to the back. The contents of the stomach were highly acid, while the stomach itself, distended by inflation with the tube and bulb, was found to be dilated. The distension caused extreme pain of the kind last described, and the air that had been pumped into the stomach was at once permitted to escape through the tube. A presumptive diagnosis of chronic perigastritis with pyloric insufficiency, or, in other words, a healed ulcer with cicatricial contractions and perigastric adhesions, was made and an exploratory operations wa^ advised. This was done at the Good Samaritan Annex on the 14th, in the presence of Dr. E. R. McGrath and others. Adhesions about the pylorus and between the posterior wall, near the lesser curvature and the posterior parietal peritoneum, were found and broken up. The pyloric orifice was demonstrated to be less than one-fourth of its normal calibre. A posterior gastro-enterostomy was done by the suture method and the patient returned to bed in twenty-four minutes from the beginning of the operation. I mention the time because I think it is an important factor in preventing shock, which was not experienced in this, as it has been in some of my other cases, in which the exposure of the viscera extended over a longer time. This case was permitted from the first to occupy any position that she desired, and sat up in bed on the third day. She has not had a single unpleasant stomach symptom since the operation, and was taking a liberal diet before she left the hospital, which was on the sixteenth day after the operation. The case is presented not only because it is similar to others in my practice, but because it is typical of many cases of so-called "chronic dyspepsia" that are either overlooked or the true pathology of which is not understood. There is probably hardly a practitioner who has not from one to a half-dozen of these cases on his list, probably without knowing it.

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* Read before the Academy of Medicine of Cincinnati, November 28, 1904.

CASE II.

Tuberculous Peritonitis; Traumatic Ileus; Preliminary Enterotomy; Secondary Resection of Intestine with Enterotomy; Recovery.

The next case is one from which this specimen—three inches of the ileum—was removed nineteen days ago. The patient, Edward L., aged twenty-three, a brass finisher by occupation, come under the care of Dr. M. Cassatt, of this city, the last week in September of this year. He at that time gave a good family history, but stated that about June 1 he began to lose flesh, and occasionally noticed that he had slight chills, followed by fever, in the evenings; he was constipated; suffered from malaise and felt unequal to his labors. His symptoms did not prompt him to consult a physician, however, until the last week in September, when he was struck in the left groin with a baseball. The shock was very pronounced and he was carried home. From that time on he experienced pain in the region of the injury, associated with an aggravation of the previous symptoms. After a week he was able to be about again, but with persistence of soreness in the abdomen, slight chills, fever and sweats. On October 8 he was seized with violent pain in the neighborhood of the injury, associated with obstipation and vomiting, which latter speedily became stercoraceous. I saw him at the instance of Dr. Cassatt late in the evening; his temperature was subnormal and his pulse 138. He was at once sent to the German Deaconess Hospital, where an operation was done as speedily as preparations could be made. On opening the abdomen in the left iliac region diffuse tuberculosis with acute inflammation of the peritoneum was revealed. Any attempt to break up the universal adhesions was followed by copious bleeding. This made it apparent that, considering the condition of the patient, any attempt to hunt for the point of obstruction would be disastrous. I accordingly opened the distended ileum, fixed it to the abdominal wound and put the patient to bed. He promptly reacted, his temperature going to 103° F. and his pulse coming down to 110. This correlation was maintained during the next two days, when pulse and temperature became approximately normal, the thermometer vacillating between 97° and 99° F. The drainage from the bowel was excessive, and after a few days consisted largely of unmodified bile, which excoriated a considerable area, until, at Dr. Cassatt's suggestion, the surface was protected with a mixture consisting of fresh sterilized mutton tallow 75 and olive oil 25 per cent., to which was added a few grains of rosin—an excellent formula under these or analogous circumstances. The condition of the patient continued to improve until November 2, when I did a secondary operation, which consisted in resecting the intestine at the point of opening, removing the three inches that I exhibit this evening and in effecting an end-to-end anastomosis by means of the Murphy button fortified with a row of sero-serous sutures. The point of obstruction was discovered at the site of the traumatism on the left side, and consisted of an adhesion between the ileum and the parietal peritoneum. This was broken up without special difficulty. The button, which I also show this evening, was passed on the sixteenth day after the operation. The convalescence of the patient was without incident and he was dismissed well at the end of the third week.

An interesting clinical feature of this case is the fact that the innumerable miliary tubercles which studded the peritoneum and seemed to be universal at the time of the first operation had completely disappeared when the abdomen was reopened after an interval of three weeks. To my mind the lesson taught by this case is, first, the importance of the preliminary cystostomy; and, second, the importance of a clear-cut resection of the intestine and an end-to-end anastomosis, as strictly conservative measures.

CASE III.

Surgical Kidney Complicated with Nephroptosis; Extirpation of Kidney; Recovery.

The next specimen, a suppurating and almost disintegrated kidney, was removed a week ago from a patient that was admitted to the gynecological service of the Cincinnati Hospital for a vesico-vaginal fistula, but upon whom I operated for the kidney complication through the courtesy and at the request of my colleague, Dr. N. P. Dandridge, of the general surgical service, to which that phase of the case more properly belonged. The history of the case as furnished by the interne, Dr. Joseph Lewis Ransohoff, is as follows:

"Mary G., aged forty-five, but from appearance much older, entered the house November 11, complaining of pain and swelling in the right iliac region and of incontinence of urine. Fifteen years ago, while attempting to produce an abortion on herself, she pushed a sharp slate-pencil into her bladder, producing a fistula which has defied repeated efforts at closure and from which the urine is constantly dribbling. Examination reveals, on the anterior surface of the vagina, extensive deposits of scar tissue, in the midst of which the fistula can be seen. On the right side at the brim of the true pelvis is a crescentric tumor twice the size of a normal kidney. This is nodular, tender, fluctuating and slightly movable, and has been noticeable during the last two years. Urine is clear; specific gravity 1022; and contains traces of albumin, no sugar, a few granular casts and very few pus cells, but no kidney epithelium. Repeated examinations failed to show pus in any appreciable amount. Nephrectomy was done by incision through the ileo-costal interval seven days ago, since when the patient has not shown an untoward symptom."

CASE IV.

Abdominal Pregnancy of Four Years and Nine Months' Standing, Complicated with Fibroid of the Uterus; Operation of Marsupialization; Recovery.

A month ago I presented to the Academy a specimen consisting of the partially absorbed skeleton of a fetus that I had just removed from a patient with the following history: Mrs. K., of Dayton, O., aged thirty-five, married sixteen years, was never pregnant until January, 1900. A month later she had an attack of left pelvic pain, followed by swelling of the left leg, from which she recovered after several weeks of illness. Fetal movements were diagnosticated in June following and continued until September. They then ceased, but their cessation was marked by an attack of vomiting, and later, in October, when, having attained the size and shape of a woman at full term, she was seized with a slight flow and regular labor pains, which lasted three days. The pains then died away without having effected parturition. She at once improved in appetite and strength and the whole tumor began to decrease in size. Dr. W. J. Conklin, who was then called in, diagnosed abdominal pregnancy complicated with fibroids and advised delay before operating, the object being to secure, at least, partial absorption of the placenta before opening the sac. This advice was accepted, and the patient, when menstruation was resumed in December, 1901, did very well until March, 1903. Her menstruation then ceased and she began to have severe pain in the pregnant site, the dimensions of which had materially diminished. Dr. Conklin's advice to submit to operation was not acted upon in the hope of forming an innocuous lithopedian. In June, 1904, the patient manifested a low grade of septic symptoms, which continued until October 28, when I saw her and when she reluctantly submitted to the operation of marsupialization. The sac was opened three inches to the left of the median line and the fetal remnants were removed. They consisted of the skull bones, the ribs, the vertebræ and the long bones, all skin, flesh and epiphyses having disappeared. There was not a remnant of the placenta left, the partial absorption of which I have observed in two previous cases, a fact which confirmed the wisdom of the early delay advised by her medical attendant. Two large fibrous nodules of the uterus could be felt through the wall of the sac, the peritoneal wall of which was not opened. The cavity was packed with antiseptic gauze and the patient returned to bed. Two days later the septum between the cavity and the sigmoid gave way, with a resulting fecal fistula. This was permitted to discharge quite freely until the cavity was considerably contracted, when further fecal discharge was controlled by a device suggested and successfully used by Dr. Dandridge, consisting of a layer of rubber dam on which a rubber sponge is placed and held in position by elastic straps. It now seems that with the exception of the fibroids, which are not active, the patient, whose condition is excellent, will require no further operation.

CASE V.

Gall-Stone History of Seventeen Years' Standing; Perforative Cholangitis with Extravasation of Bile into Peritoneum; Operation; Recovery.

Mr. M., aged fifty-two, pharmacist, was first seized with characteristic gall-stone colic seventeen years ago. These attacks, during the early part of his illness, would recur at irregular intervals, and were often so severe as to require hypodermic administrations of morphia. He, being a pharmacist, was in the habit of giving himself free doses of calomel and tartar emetic, still further to relieve these attacks, and generally with success. He was subjected to various routine treatment, including attention to diet and outdoor exercise.

On November 10 he had an attack more severe and more persistent than any that had preceded it, for which he took calomel and other cathartics freely, but instead of improving as previously under this treatment, his symptoms became worse. Nausea, followed by persistent vomiting, set in and was relieved only by complete rest of the stomach. After two days of rest and comparative freedom from pain, he ventured to take some broth, which was at once followed by a return of the colic. This increased in intensity until his attending physician, Dr. H. G. Marxmiller, resolved that operative interference had become imperative. The patient at the time of this interview had been kept free from anodynes, that the symptoms might not be masked, but he was immediately thereafter given morphia to lull the intense pain until the operation could be done the next morning, November 13. When the peritoneum was opened it was found to contain a large quantity of free bile, which escaped, after which the gall-bladder was found projecting below the lower margin of the liver and presenting a perforation at its fundus. It was at once brought up into the operation wound and opened, when a considerable number of stones were removed, one in particular presenting a light zone, with slight constriction about it, indicating that it had been playing the part of the ball in a valve which it formed with the orifice of the cystic duct. After cleansing the peritoneal cavity as thoroughly as possible, but without resorting to lavage, the gall-bladder, the walls of which were very hypertrophied, were stitched in the abdominal wound, a tube was inserted and the patient was returned to bed. The subsequent course of the case under the care of Dr. Marxmiller was entirely satisfactory, and although the fistula is yet slightly open, the patient is up and about.

CASE VI.

Retroperitoneal Cyst Complicated with Chronic Appendicitis; Laparotomy; Recovery.

The two specimens that I next present are, first, a sessile tumor; and, next, an appendix vermiformis that is the seat of chronic inflammation. The patient from whom they were taken six days ago is a young woman of twenty-six, who was first referred to me by my brother, Dr. John G. Reed, three years ago. She at that time had a nephroptosis, the right kidney lying along the anterior crest of the ilium. She had had repeated attacks of pain in the displaced organ, one of them having been so severe as to suggest strangulation. I then did a nephropexy, taking the precaution, as I generally do, to open the abdominal cavity anteriorly to find, if possible, the cause of the displacement, In this instance I found it, as I thought, in a very fat and heavy omentum, which, from some cause, had become adherent to the peritoneal investment of the kidney. This condition was remedied, after which the kidney was returned to its nest and fixation accomplished by making a posterior incision and stitching its split capsule to the fascia of the quadratus lumborum muscle. The patient made an uninterrupted recovery and I heard nothing more of her for a year, when she again came to my office and called my attention to a lump in the same position previously occupied by the kidney when displaced.

It was about the size and shape of the kidney, and, as I could palpate neither of her kidneys in their normal site on account of thick abdominal walls, I concluded that the replaced organ had again broken its anchorage and dropped down. In this the patient disagreed with me, as she had had no recurrence of the old kidney pain. She went her way and I did not see her again until two weeks ago, when she came to me following an attack of appendicitis. The object of her mission was, however, to remove the lump, which had increased in size and had become a source of discomfort. This I did a week ago, when I made an anterior incision into the abdominal cavity directly over the enlargement. The vermiform appendix, which, as you observe, was distinctly diseased, was removed. I then slipped my hand into the peritoneal cavity and from within explored the kidney, which I found in position as I had fixed it three years before. Then dissecting away the peritoneum I readily enucleated the cyst which I show you. Its wall is thin, and, at the time of removal, was translucent, while its contents, which I estimate at a pint, consisted of perfectly clear mucus. This is the first time that I have ever found a cyst in this locality. Judging from the character of its walls, its contents and its habitat, it is reasonable to suppose that it had its origin in a fragmentary survival of the primordial kidney or the mesonephros of fetal life. The patient is already past the surgical stage of a perfect convalescence.

CASE VII.

Uterine Myoma Complicated with Pelvic Suppuration and Universal Adhesions; Supra-Vaginal Hysterectomy; Recovery.

The next specimen is that of a multinodular myoma of the uterus that I removed from a young woman of twenty-eight five weeks ago. There is nothing remarkable about the specimen itself, but the history of the case illustrates some of the dangers attending mistaken diagnosis and some of the consequences and complications following a consequently mistaken treatment in these cases. In the first place, the case, after being subject to irregular bleedings for several months, was diagnosticated two years ago as one of "bleeding pregnancy," and the patient, not desiring children, went to some adventurer who pretended to procure an abortion. She says that nothing came away from her but a little blood, and that this condition continued to exist for several more months. She then went to somebody else, who curetted her to stop the bleeding. This had no other effect than to put her in bed with "chills and fever," associated with pelvic tenderness and abdominal distension. Following her getting up, six weeks later, she had a yellowish discharge, and two months later a recurrence of the hemorrhage. The yellowish discharge continued when she was not bleeding, which was frequent and irregular. Latterly she had chills, followed by fever and sweats. When she came into the Good Samaritan Annex she had a temperature of 99.5° and pulse of 95. The operation was rendered exceedingly difficult by the extent and density of the adhesions. On lifting the uterus from the cul-de-sac a pocket of pus was revealed. This was cleaned out and drained. Looking at this case in all its aspects I cannot think that the woman was ever pregnant, and am forced to the conclusion that the serious complications that where encountered resulted from the previous unwarranted tampering to which she had been subjected.

CASE VIII.

Chronic Atrophic Appendicitis; Appendectomy; Recovery.

The next specimen is the smallest appendix that I remember to have removed. It was taken from Miss W., aged twenty-five, who was referred to me for operation by Dr. J. T. Priestley, of Des Moines, Iowa. She was seized with a violent attack of appendicitis a month ago, from which she convalesced in the course of a fortnight. She, however, had persistent tenderness in the region of the appendix, and comprehending the character of the trouble readily submitted to an elective operation, which I did at the Good Samaritan Annex a week ago. I made the stellate incision, and, after breaking up the adhesions, exposed the appendix. It was bound down, was less than an inch long, and, as you see, is distinctly atrophic. It is precisely the kind of an appendix that, with minimum powers of resistance, is most liable to succumb to infection—

precisely the kind of structure that furnishes the foundation for more than one fatal case of fulminating appendicitis. The wisdom of having the operation done in the interval is shown by the fact that neither pulse nor temperature have varied the least from normal since the patient was returned to bed. She will leave the hospital in a week.

CASE IX.

Advanced Carcinoma Uteri; Abdominal Panhysterectomy; Recovery.

The next case, referred to me by Dr. John Francis, of Hamilton, O., was that of Mrs. F., aged sixty-four, who passed the menopause twenty-three years ago. She is the mother of eight children, but had no difficulty in any of her confinements. When she came to me the first of this month she gave a history of good health up to last May, since which time she had been having a more or less constant discharge, watery in character. It was free from odor, generally clear, but occasionally brownish, and still more rarely bloody. She had not had a distinct hemorrhage. On examination I found a senile vagina with obliterated cervix, but with slight but unmistakably malignant erosion at the margin of the os. She entered the hospital and was operated on November 7. A preliminary curettage of the uterus revealed that practically the entire anterior of the organ was involved. The cavity was then packed with gauze and the os closed with sutures. The patient was then placed in the Trendelenburg position and an abdominal incision made. The uterus, much enlarged by the diseased process, was adherent. as were the uterine appendages. After the adhesions were broken up the ovarian arteries were tied, the broad ligament was split open and all glandular and cellular tissues removed with gauze. The uterine arteries were then tied off and the uterus itself, with its adnexa, removed.

This case, which made a prompt and uninterruped recovery, is instructive, first, because it was one of advanced carcinoma, in which the usual symptoms of hemorrhage and odor were absent and in which the complete operation, by the abdominal route, was demanded for the removal of possible metastases from the broad ligament. The revelations of the operation and the subsequent course of the case comprise the complete justification of the procedure.

CASE X.

Umbilical Hernia; Operation by the Overlapping Method; Recovery.

The patient, a surgeon of prominence, weighing in the neighborhood of 300 pounds, had an umbilical hernia during a number of years. The protrusion, at times the size of a small orange, could be returned only with difficulty, and occasionally threatened strangulation. He entered the Good Samaritan Annex on the 23rd inst., and I did a Mayo operation. Following a transverse incision and the exposure of the superficial fascia, the sac was dissected back from the ring and ligated. The ring itself, which was very small, was then enlarged by lateral incision and the lower flap sutured up under the upper one. The upper flap was then fixed to the aponeurotic surface by interruped sutures. Although the operation caused but little pain following its performance, the patient, in consequence of his weight, found the bed, especially the recumbent posture, very irksome. He accordingly sat up, first in bed, and next, on the occasion of my second visit, I found him sitting in a rocking chair, complacently reading the morning paper. When I expostulated with him he protested that the position was not only more comfortable, but that, taking the character of the operation into account, it was the rational method of treating the case. His intelligence on the subject entitled his opinion to weight, while his present personal experience, coupled with the fact that no reaction was provoked, induces me, on reflection, to accept his view as my own. I present this brief memorandum to pass the lesson on to those to whom it may be of practical interest.

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PHIDADELPHIA, in addition to the outbreak of cerebro-spinal meningitis, has to contend with a steadily increasing epidemic of typhoid fever. For the week ending March 4, there were 92 cases; for the week ending March 11, 178 cases, and for the week ending March 18, 247 cases. As usual, the wards unprovided with filtered water are contributing the greatest number of cases.

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

OFFICIAL REPORT.

Meeting of February 20, 1905.

THE PRESIDENT, S. P. KRAMER, M.D., IN THE CHAIR.

SAMUEL IGLAUER, M.D., SECRETARY.

Symposium on Eye Injuries.

DR. WILLIAM JORDAN TAYLOR demonstrated the apparatus designed by Dr. William M. Sweet, of Philadelphia, for the location of foreign bodies in the eye by the Roentgen rays. With this instrument it is possible to readily determine both the size and position of the foreign body in the orbit.

Triangulation is employed, from two exposures with the tube in different positions. In Dr. Sweet's apparatus he has secured simplicity by combining the plate holder and indicators into an instrument which is bound to the side of the head.

"The indicators, while freely adjustable, are always parallel to each other and to the plate, and the two balls are constantly perpendicular to the plate and 15 m.m. apart at their centres. The only measurement necessary to be made is the distance of the centre ball from the centre of the cornea."

DR. ROBERT SATTLER read a paper on "The Electro-Magnet in Ophthalmic Surgery" (see p. 365).

DR. FREDERICK LAMB read a paper on "Penetrating Wounds of the Eyeball," with presentation of specimens (see p. 369).

DISCUSSION.

DR. D. T. VAIL: The subject of penetrating injuries and their pathology is one that covers a great deal of ground, and we could hardly discuss it in all its phases to-night.

A number of noted foreign oculists who are using the giant magnet for extracting foreign bodies have written words of warning against the indiscriminate use of the large magnet, stating that the action has often been detrimental. In some cases it has been positively proven that the impaction of the foreign body as it comes violently forward to meet the pole of the magnet produces a grave traumatism, resulting in inflammation of an active and violent character, which has even caused ultimate destruction of the eye. This means that we should not use tremendously strong magnets incautiously. We should at first try milder ones, or at least a mild current, and extract the foreign body without tearing it forcibly from its bed. I have had some experience in the use of these magnets, both large and small. Over a year ago I reported four cases where I used electro-magnet attraction for extracting foreign bodies from the chambers of the eye, and the eyeball was saved in each instance.

I reported about two weeks ago a series of four additional cases in which the foreign body in the eye was not extracted. In one of the cases the foreign body was brass, and, of course, the magnet had no effect or action on brass. In another case the foreign body had passed entirely through the globe and had lodged behind the eyeball in the orbit, where its removal by magnet force was an impossibility.

We noticed that in the first specimen of the interesting group of eyes exhibited by Dr. Lamb, the foreign body was found entangled in the iris, and also that the specimen demonstrates that the deeper structures of the eye must have been comparatively normal for a long time before the eye was removed. I removed the eye on account of chronic irido-choroiditis and positive symptoms of trouble in the other eye. There was complete occlusio-pupillæ, and the eye was blind and tender. The patient had a great deal of pain in the eye and signs of sympathetic trouble in the good eye. It was too late to do anything else than remove the globe, but the question arises, should an iridectomy have been attempted at the *time of the injury* with a view of securing the bit of iron with the piece of iris in which it was entangled, as was done so successfully by Dr. Sattler in a case he mentioned to-night.

An iridectomy is not a difficult operation, and at the time of injury would have held a fair promise of being successful. I feel, however, that we should not judge the behavior of the attending oculist whom he first consulted, as we are not familiar with the condition of affairs at that time. The patient may have refused an operation.

The second specimen which was exhibited by Dr. Lamb was from one of the most interesting cases I have ever seen. The patient was shot in the face at a distance of about fifty feet by a man who used a shot-gun with murderous intent. Several bird shot entered the face and were flattened on the bone. One shot struck the eyeball, causing the result shown on the screen to-night. The man had violent irido-cyclitis, with great pain. We enucleated the eye on account of the intense pain present and because the eye was entirely blind. There was *absolutely no sign of irritation* in the good eye. The enucleation was clean and smooth, with no vestige of sclerotic left behind. I inserted a glass ball in Tenon's capsule, as is advised by noted oculists. The object was to furnish a suitable stump for the wearing of an artificial eye. The cut tendons of the external and internal recti were sutured together and the superior and inferior recti likewise. The glass ball was held in the hollow of these muscles. The cavity went on to a very satisfactory healing. The reaction was very slight. No tenderness nor inflammation was present in the socket. Six weeks after the enucleation the patient called at my office and stated that he could not see very well with his good eye. I examined the eye very thoroughly, but could not find a single thing wrong with it. The field of vision was normal, the pupil and tension were normal and the eye was not sensitive to light or to finger palpation, and no injection of the globe was to be seen. The vision was but $\frac{20}{40}$, and he could not read ordinary type, but this is a subjective test and we could not satisfy ourselves that he was trying his best. I used homatropine and made a thorough examination, corroborating our findings. I found the eye absolutely normal as regards the fundus. The man declared that he could always read until the day before, but that now he could not read. I ordered him to return the next day, but he failed to appear. The next thing I heard of him he was back in the hospital, entirely blind. Dr. Sattler's diagnosis, and mine, too, was sympathetic ophthalmia, for there was present a most violent plastic iritis, cyclitis, optic neuritis and retinitis. Here, then, was a case of sympathetic ophthalmia arising six weeks after enucleation. The question arises, was this the result of the glass ball irritating the end of the optic nerve, or did it result from adhesions of the optic nerve with the tendons of the cut muscles? No infection of the orbital tissue was manifested at any time. I advised Dr. Sattler, who was on duty at that time, to remove the glass ball at once. This he did, and at the same time he resected the optic nerve.

The prognosis looked very gloomy, for his remaining eye was blind from sympathetic inflammation, and so I was amazed to find that the man ultimately recovered with perfect vision. I saw him after he had recovered his sight, and he said he could now read the finest print. This rare case of sympathetic ophthalmia developed *six weeks after the removal of the injured eye.*

Resection of the small part of an optic nerve, together with removal of the Mule's sphere from Tenon's capsule resulted in rapid restoration of vision as if by magic. There are many such problems as this arising, which cannot be explained by the germ theory, ciliary theory or any other known theory, and when we talk of the pathogenesis of sympathetic ophthalmia we are talking about something of which very little is known.

Regarding the X-ray in connection with the localizing apparatus exhibited by Dr. Taylor to-night, I can say that it is very satisfactory, and I now approach these cases of penetrating injury done to the eyeball where there is the question of a foreign body within the globe with a feeling of confidence instead of uncertainty.

Dr. S. C. Ayres: This is certainly a very interesting subject, and the paper and demonstrations have been very important indeed. I think no more responsible cases come to men than the presence of a foreign body in the eye. When the magnet was first introduced into practice a number of years ago we had great hopes that it would do much for the eye in removing foreign bodies. I think it has accomplished much. We have now the additional advantage of the X-ray, and this simplifies the work very much for the surgeon in his attempts to remove foreign bodies. Many of these cases are lost because the foreign bodies, when they enter, very soon set up panophthalmitis. I had a case of this kind to day which demonstrated the use of the X-ray, and which also shows that the electro-magnet cannot be used successfully in all cases. I saw the young man on Saturday. He was injured on Thursday, two days previously. A small piece of steel entered the inner and upper quadrant of the left eye. It split the circular fibres of the iris just a little bit, making a V-shaped opening in them. The foreign body passed through and could not be located in the interior of the eye. The lens was still transparent. You could still see the fundus. I saw back of the lens a mass moving, but I could not tell whether it was blood or a foreign body. The electro magnet was applied without any response. I examined the eye with the ophthalmoscope afterwards, but could not find any change had taken place in the interior of the eye. Dr. Taylor located the foreign body very satisfactorily. Since yesterday suppuration has set in, and the fundus is entirely obscured. I think it would be useless to make an opening into the sclera and attempt to remove the foreign body in a suppurating eye. After enucleation the foreign body was found just about where Dr. Taylor located it, and a large clot of blood surrounded it. The retina was studded over with numerous hemorrhages. It looked as if the foreign body had struck the sclera and rebounded. Foreign bodies are not always found exactly in the location where they first struck.

Dr. Sidney Lange: The case of foreign body in the eye last referred to by Dr. Sattler, presented unusual difficulties from the radiograph's point of view. A middle-aged male, while cleaning a loaded shot-gun, accidentally discharged it, receiving a charge of small bird-shot in his right hand and face, some of which entered his eyes. The patient was examined by Dr. Sattler, who asked for a radiographic localization of forign bodies possibly imbedded in eyes or orbits. A skiagram of the side-view of the face was taken, which showed no less than seven distinct shadows in the region of the eyes and orbits, presumably those of the bullets. Subsequently, by means of the Sweet localizer, loaned by Dr. Taylor, two views each of right and left eyes respectively were taken.

In examining these pictures and attempting to plot the localization of the bodies upon a Sweet's chart, it was found difficult to identify the shadows cast by the same body upon the two pictures taken from different angles, as explained by Dr. Taylor. For the bullets had been badly mashed and splintered by their impact with the bones of the face, and the shadows of the same body upon the two pictures were difficult to recognize as being cast by the same body because of the distortion produced by shifting the X-ray tube.

A glance at the accompanying chart shows presumably no foreign body in the left eye, the two fragments outlined being probably imbedded in the ethmoid cells. An ophthalmoscopic examination of this eye by Dr. Sattler revealed detachment of retina, produced, perhaps, by a fragment passing entirely through the eye and lodging in roof of orbit, as shown in the large picture.

In the region of the right orbit there seems to be three bodies; one just above, behind and to outer side of the globe; another seems to lie upon the sclera of the upper inner posterior quadrant, but whether just within or just without the globe it is difficult to say. The accurate determination whether the foreign body is just within or just without the globe in such cases demands rigid technique, and even in this event it is not free from error because of the variation in the size of eyes of different individuals. The third fragment shown lies in the ciliary region to the inner side of the lens. The other fragments are entirely outside orbital cavities.

The case seemed worthy of mention because it brings out a difficulty not often met with. The patient is still under treatment at the City Hospital.

Dr. Sattler: For the interesting demonstration Dr. Taylor has given us of Dr. Sweet's apparatus, I want also to add my appreciation and say that it is of far-reaching importance to ophthalmic surgeons. It is due to the perfection of method, with its accurate scientific deductions so ably explained to us, that not alone greater precision in diagnosis is achieved, but it also points out more specifically the uses and limitations of the electro-magnet for the extraction of iron or steel from the deeper structures of the eye. The skiagrams furnished me by Dr. Taylor in the first case, by the aid of which the piece of iron was located in the inner lower posterior quadrant of the eye near but beyond the equatorial region, towards the posterior pole, were taken as our guide for the operation, and the region of the eye designated by the X-ray was exposed for direct exploration and the application of the magnet. This was accomplished by dividing the inferior rectus muscle. By grasping the tendon of the muscle, the eye could be rotated upwards so that the region designated by the X-ray findings was in view. The application of the magnet to the sclerotic told us that the piece was there. An incision was made and the magnet applied near its margin and at once brought out the foreign body.

In the other case, in which the localization gave us not a little concern lest the foreign body might have cleared the eye and lodged external to it in the tissues of the orbit, Dr. Taylor, after repeated efforts, secured several skiagrams taken at different angles, and expressed his opinion that the foreign body was within the eye, but very near the outer and upper wall, and also nearer the posterior pole than the equator. In this case, relying again on the accuracy of the skiagrams, the region which they pointed out which harbored the foreign body was exposed. The superior rectus was divided, and, as in the other case, the tendon was used to pull the eye downwards and rotate it inwards. The incision was made a short distance back of the equator. The approach of the magnet to the incision at once told us it was there, a relief to us all that the foreign body had been correctly located. The magnet was repeatedly applied to the margins of the incision, but, owing to the small size of the foreign body and its entanglement in the choroid, it was found, even after the repeated insertion of the magnet through the incision, impossible to dislodge it. After consultation it was deemed advisable to enucleate the eye. The foreign body was found subsequently and the reasons which rendered its extraction impossible have been stated.

The magnet operation and the use of portable magnets have, during recent years, undergone not a few important modifications. The tip of the giant Haab or stationary magnet is brought very close, and, in some cases, almost in contact with the eye. Successive attempts are now made to dislodge the foreign body from the depths and bring it forward into view. If this is successful it is removed with the magnetized spatula or by the aid of a smaller portable magnet or other instrumental interference. To dislodge a foreign body hidden in the depths of the eye by the aid of the giant magnet and to guide its successful advance forwards into the anterior chamber, along lines of least resistance, is a task which requires endless patience, great skill and much experience. The tip of the stronger portable magnet, as was formerly recommended, if it can be avoided, are not plunged into the eye. They are used much like the larger stationary ones, first by direct application, and if this proves unsuccessful and the injury a recent one, it is justifiable to introduce a suitable tip through the original wound or into a fresh one, to a point which corresponds to the findings of the X-ray examination.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, APRIL 1, 1905.

LEUKEMIA AND THE X-RAY.

From time to time we have had occasion to speak in these colums of the action of the Roentgen rays in ameliorating the condition of those unfortunates afflicted with spleno-myelogenous leukemia. In quite a series of cases reported in the last few years the initial improvement has been all that could be desired, the patients improving in weight and in strength, the spleen diminishing markedly in size, and the leucocytes returning to the normal both as regards their number per cubic millimetre and by the differential count. As was suggested, however, leukemia is a disease subject to the most astonishing improvements under treatment—indeed, it might be said in spite of treatment—and considerable time must elapse before these cases subjected to the X-ray and showing such marked improvement could be pronounced as cured.

A recent case reported by Brown and Jack[1] bears out this assertion. This patient, a male, aged thirty, was diligently rayed during the summer of 1903, and improved so rapidly that he was able to return to his regular occupation in the fall. At first the rays was used over the splenic region twice a week, but in September this was increased to a treatment every day, and in February, 1904, reduced to every other day. In September of last year, in spite of the treatment, the patient began to lose ground, and died after a ten weeks' illness. During this last illness the clinical picture did not suggest leukemia either in enlargement of the spleen or on examination of the blood. Rather, indeed, the symptoms showed a well-marked parenchymatous nephritis, which diagnosis was confirmed on autopsy. The pathologic report of the changes in the kidneys is so interesting and suggests so accurately the action of the rays that it is appended in full:

"Sections of the kidney show remarkable lesions in the form of extensive deposits of lime salts, involving chiefly the convoluted tubes. For the greater part these tubules are replaced by masses of lime salts, either completely filling up the tubule and replacing the epithelium or confined to the epithelium alone, either partly or wholly surrounding the lumen of the tubule. Some glomeruli show small deposits, and casts of lime salts are found also in the straight tubules. The deposit is, however, for the chief part, in the convoluted tubules. Such convoluted tubules as are in part free from lime salts show more or less parenchymatous degeneration. Localized areas of acute interstitial inflammation are also present and hyaline casts are found in some straight tubules. There is no leukemic infiltration and no increase of leucocytes in the blood-vessels. The general picture closely resembles the parenchymatous changes with deposit of lime salts seen after poisoning with mercuric chloride."

The spleen showed a marked fibrosis, with chronic passive congestion and without preservation of the follicles. The lymph-glands of the body, on the contrary, showed a most marked lymphoid hyperplasia, resembling lympho-sarcoma. The distinction between cortical and medullary portions was lost and the sinuses were filled with or obliterated by lymphoid cells.

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[1] Journal of the American Medical Association, March 25, 1905.

In summing up, we might say that the X-ray treatment has resolved a leukemic condition into an aleukemic one, as far as the spleen is concerned, though the disease, leukemia, must still be regarded as active on account of the hyperplasia of the lymph cells within the glands. Of even greater importance, from the standpoint of treatment, were the pathologic changes found in the kidneys. With the disappearance of incalculable numbers of leucocytes from the circulation and their consequent elaboration by the kidneys, enormous additional work must necessarily be thrown upon these organs. If we can assume, in conjunction with this destruction of leucocytes, the release of a toxin, we would have produced the pathologic nephritic picture presented by this case. At any rate, we have reason to believe that the radiotherapy, however remotely, was responsible for the nephritis, and this should convey a lesson to radiologists in treating this disease—examine frequently and carefully the condition of the urine so as to make sure that the destruction of the leucocytes in the peripheral circulation is not throwing too great a strain upon the kidneys.

NEW METHOD OF SUICIDE.

What might be designated an up-to-date —certainly a novel—attempt at suicide is reported by Duflocq and Voisin.[1] The patient, a young woman, aged nineteen, in some manner succeeded in securing a pure culture of the typhoid bacillus, which she promptly swallowed. In a moment of repentance she subsequently confessed what she had done, so that the exact date of the rash act was known to her attending physicians. By so doing she unwittingly furnished to the medical profession some reliable data as to the period of incubation of typhoid, a point that we have been on the lookout for for years. Three days after taking the culture she developed a violent headache, which gradually disappeared. Two days later there was marked anorexia, and on the sixth day she was so ill that she was compelled to remain in bed. On the evening of the sixth day the temperature reached 101 degrees, while on the eighth day there was abdominal pain, iliac tenderness, a rose-colored eruption and a positive Widal reaction. Unfortunately for the success of her scheme, she had taken no account either of the skill of her physicians or of the high per cent. of recoveries in this disease, and under the appropriate treatment she made an uneventful recovery.

The case is mentioned as a sort of travesty on human affairs—that an act of this character should really redound to the increase of general scientific knowledge. The idea, on second thoughts, is not at all a stupid one; indeed, the only wonder is that it has not been more frequently attempted. Perhaps it has been used as a means of shuffling off the mortal coil more frequently than we are aware. It has the advantage of avoiding the pain of corrosive poisons and of other commonly employed methods. More frequently than we think, perhaps, many would-be suicides shrink from their irrevocable act not so much from cowardice as from the necessary exposure and subsequent exploitation of the deed by the public press, with its sensational headlines and grewsome pictures. A legacy of this kind to surviving relatives is certainly a thing to be dreaded by even the most determined self-destructionist. Many suicides are attempted because of financial distress, and in this connection it must be remembered that practically all insurance companies have inserted in their policies a clause that makes it on its termination by suicide null and void. Death from the inoculation of some virulent micro-organism has, then, from the suicide's point of view, everything to commend it, for in that even the most fatal microbic diseases show a certain per cent. of recoveries, it throws the responsibility, as it were, upon Fate, leaving her decide as to a favorable or fatal outcome.

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[1] Arch. gen. de Med.

CEREBRO-SPINAL MENINGITIS.

On several occasions recently we have referred to the ravages produced in New York City by the present epidemic of cerebro-spinal meningitis. The efforts of the department of health to secure a municipal investigation have at last been crowned with success, and the city fathers have appointed a commission representing all the medical schools in the city and have provided the commission with an initial appropriation of five thousand dollars, with the promise of more if necessary. The department may well be alarmed, as each week shows a steady increase in the number of deaths over the week preceding. For the week ending March 11, the total mortality from this one disease was 76, as against 58 for the week preceding. The disease, which was at first confined to the East Side, has now spread to other parts of the city, and has broken out in other cities, notably Philadelphia and New Haven. The commission consists of the following well-known physicians: William M. Polk, Chairman, Dean of Cornell Medical College; Walter B. James, William P. Northup, Simon Flexner, head of the Rockefeller Institute; J. M. VanCott, E. K. Dunham, pathologist of Carnegie Laboratory; and W. K. Draper. If anything worth while can be accomplished in lessening the spread or the mortality of this infection, it surely ought to be done by this eminent body of scientists.

Attention was called last week to the work that is being done in the treatment of cerebro-spinal meningitis by injections —large injections—of the diphtheria antitoxin. The first efforts of the commission will probably be to investigate this method thoroughly in a large number of cases in different hospitals, and thus satisfy themselves of the truth of the claims set forth by the discoverers. We are beginning to believe that the disease is to a certain degree contagious, in that Drs. A. B. Craig, of Philadelphia, and J. A. Moore, of New Haven, have recently succumbed to it in the line of duty. This is directly contrary to the teaching of Osler, who, in his Cavendish lecture of 1899, stated that he knew of no case in which physician or nurse in attendance had been attacked or even in which patients in the same ward had been infected. It would seem from this recent experience that, while "waiting for something to turn up," it would be well to apply vigorously those principles of hygiene of which we are aware, namely, thorough disinfection of all discharges from the throat, nose and lung, and prompt separation of the sick from the well.

EDITORIAL NOTES.

OBITUARY.—Dr. Herbert Ellis, house physician to the Good Samaritan Hospital, died March 11, following an operation for appendicitis. Dr. Ellis was a graduate of the Medical College of Ohio, class of 1904.

DR. W. T. DUNLAP died March 16 of chronic nephritis, at the age of fifty-six. He was a graduate of the Cincinnati College of Medicine and Surgery, class of 1868.

AT the regular meeting of the Cincinnati Academy of Medicine, March 13, Dr. Magnus A. Tate was duly installed as President. By a large majority it was voted by the Academy that the Ohio State Society should continue to publish its proceedings in book form as heretofore, and not start an official journal, as has been suggested.

At the meeting on April 3, a symposium on the medical libraries of Cincinnati will be presented by Drs. Bettmann, Wolfstein and Holmes.

F. W. LANGDON, M.D. Nervous and Mental Diseases. D. I. WOLFSTEIN, M.D.

Effects of Total Transverse Lesion of the Spinal Cord in Man.

Collier (*Brain*, 1904) says that as the result of a *total transverse* lesion of the spinal cord in man, not only are the knee jerks and other deep reflexes permanently abolished in the region supplied by the caudal segment of the divided cord, but, in addition, the muscles waste and lose their faradic excitability, the sphincters their tone, the only sign of self-action remaining in the isolated part of the cord being the occasional presence of skin-reflexes in much reduced degree. These phenomena occur in the absence of any structural change either of ventral horn cells, ventral roots, or peripheral nerves of the region paralyzed.

Collier thinks the loss of knee-jerk must be due to isolation from the higher centre, and not to concomitant structural change in the lumbo-sacral cord (Gowers' view). When a progressive transverse lesion becomes a total transverse lesion *the knee jerks are lost*, but for a certain time after this loss they may be made to re-appear after long-continued faradization of the lower limbs. In other words, the lumbo-sacral centres, after isolation, have not sufficient self-action to maintain muscular tone, but peripheral stimulation may arouse in them a state of such temporarily increased activity as to permit a knee-jerk to reappear.

Bastian first pointed out that a total transverse cord lesion entailed *abolition of deep reflexes*, and it is now universally acknowledged that loss of deep reflexes, with flaccid paralysis, means a total lesion.

Collier points out the difference between animals and man. In the cat and dog, after resection, the deep reflexes *are exaggerated with a spastic paralysis*. Complicated reflex movements may be elicited, even the "scratch" reflex. Temporary diminution or abolition of the deep reflex may follow the transection, but is only of momentary duration.

In the higher apes transection is followed by *spastic paralysis, but much less intense than in lower animals*. Complicated reflexes are not obtained. Knee-jerks are often absent *for several days*, but not always. The transection results in the ape may be said to place it in an intermediate stage, as it were, between the intense spastic paralysis with exaggerated knee-jerks in the dog, and the flaccid paralysis with absent knee-jerk in the man.

Pathologically, a transverse lesion is total:

1. When the cord is actually severed.
2. When Weigert stains in serial longitudinal sections show no myelinated nerve fibres running through the length of the lesion, and absence of axis cylinders.
3. When serial transverse sections stained by a nuclear stain show the whole area to be necrotic.

Clinically, a *physiological* total transverse lesion exists when there is flaccid paralysis, absent knee-jerks, and absolute loss of sensibility. Complete *physiological abrogation* of function does not, however, necessarily imply absolute death of the elements involved, for these elements may ultimately recover, as has been frequently observed in pressure paralysis, or evascularization of a transverse cord area. Immediate suture experiments in animals have shown that regeneration in the cord is possible, and a certain degree of rerecovery in some cases of acute myelitis make it probable that a certain degree of regeneration may finally ensue even in transverse lesions in man.

In gradual lesions with change from a partial to a total lesion the order of appearance of symptoms is as follows: Motor paralysis and spasticity, equilibratory anesthesia, sphincter paralysis, thermanesthesia, analgesia, tactile anesthesia, flaccidity with loss of deep reflexes, progressive muscular wasting, progressive lowering of faradic excitability, progressive loss of sphincter tone. Loss of skin sensibility when present progresses much more rapidly than does the motor paralysis. Pain and heat sense suffer *earlier* and to a greater extent than the touch sense.

Place of appearance and the spread of sensory loss follows seemingly one of two definite orders; if the lesion be in the lower half of the thoracic cord the longest sensory neurons are first affected, hence the feet become asentient first, then legs and thighs, and when the trunk is reached the distribution is segmental. In a smaller group of cases sensory loss occurs first over the most caudal segmental areas and extends upwards segmentally indirectly as their distance caudal of the lesion, the lowest sacral first, then the upper sacral, and later the lumbar areas (such was the order in a case lately seen by reviewer).

The first signs of recovery from the total physiological transverse lesion is the return of the knee-jerks and gradual change from the flaccid to the spastic state. *Sensibility* returns in the following order: Touch, pain, temperature—reversal of the order of disappearance.

Hyperesthetic zones above the anesthetic belts were extremely rare in Collier's cases, and were due to root involvement when present.

Muscles give valuable evidence of the extent of the lesion. When total there is always flaccidity, with rapid wasting and progressive loss of faradic excitability to the vanishing point. The muscular wasting affects all of the voluntary muscles below the lesion equally, and may in time be as severe as in anterior poliomyelitis.

Why should there be wasting in *total* transverse lesions in the muscles below the lesions? It has been claimed that these changes are due either to coincident damage at time of original injury to the lower lumbo-sacral motor neurons of the cord, or to consecutive structural changes in these elements. Microscopic examination, however, shows just the contrary; all ventral root cells below the lesion are normal except the cells of Clarke's nucleus, which we know to be cells of origin for the direct cerebellar tract.

Collier holds strictly to the view that the ventral horn cells are normal. He explains, as already pointed out, the unusual wasting, the absent deep reflexes, and lowering of faradic excitability, on the theory of "isolation" of the lumbo sacral centres from the higher centres above.

Deep Reflexes.—Any total transverse lesion, whether physiological or anatomical, causes abolition of deep reflexes. Their return implies that the lesion *has become less than total*, and that conductivity has become re-established either by recovery of abeyant function on the part of elements, or from regeneration of nerve fibres. Complete flaccidity and absent deep reflexes has been seen by Collier within two hours. (Reviewer saw this condition ensue recently within a few hours.)

Skin Reflexes.—These appear to be invariably abolished in severe transverse lesions, with the exception of the plantar reflexes. Where the lesion is incomplete the latter may be increased where some recovery or where some regeneration has taken place. In total lesions reflex skin action is much depressed, and where life is prolonged with a total transverse lesion all reflexes slowly disappear.

Visceral Reflexes.—Priapism, in the writer's opinion, signifies a partial lesion.

Sphincters.—In the author's cases their condition was not in accord with the classic description. After total lesion constant dribbling with a small bladder was the rule. The persistence of retention with reflex evacuation seemed to indicate that the lesion is not total.

Anal and urethral reflexes were repeatedly examined. It would appear that these, as well as the sphincter tone, are present directly after a total lesion, but constantly lessen; reflex evacuation soon becomes impossible, active retention by the sphincters soon ceases, and constant escape with a contracted bladder is the rule.

Collier has seen complete recovery follow the removal of pressure where the signs of total abrogation of function, viz., complete flaccid paraplegia, total sensory paralysis and abolition of deep reflexes, *had existed as long as seven days.* Pressure may therefore produce complete physiological abrogation for days without necessarily entailing degeneration of nerve elements.

In compression paraplegia, therefore, the onset of the flaccid state is an indication for *immediate* operative interference for the relief of pressure. The underlying pathologic state in the physiological total lesion is at least serious evascularization-ischemia, whose consequences, irreparable degeneration, cannot be long delayed.

Clinical Utility of Return of Knee-Jerks after Faradization as a Physical Sign.—If in a case of progressive paraplegia of low thoracic site the case passes under observation from the spastic to the flaccid state and soon after the onset of flaccidity the knee jerk return temporarily after faradization of the legs, it is a sign that the lumbo-sacral enlargement and its nerve roots are not involved; if not, then they are so involved. D. I W.

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PUERPERAL CONVULSIONS—CASES AND TREATMENT.*

BY MAGNUS A. TATE, M.D.,

CINCINNATI,

Lecturer on Pelvic Anatomy and Embryology at the Miami Medical College; Gynecologist to St. Elizabeth and Speers Memorial Hospitals; President of the Academy of Medicine of Cincinnati, etc.

It is unfortunate that we are still seeking the actual cause of convulsions during the child-bearing period. We know, or think that we do, that it is some toxic material in the urine or blood, or both, which simply overwhelms the system through its poisoning properties and convulsive seizures follow. The many theories advanced as to its causation have each been put in the doubtful column, for want of substantial proof.

Barton Cooke Hirst very tersely states that there is no theory yet advanced which has the same basis of common sense, and is in such accord with clinical observation, as the long accepted view, that the products of fetal metabolism, discharged into the maternal blood and eventually eliminated by the maternal kidneys, are the chief predisposing cause of eclampsia, and that insufficient elimination by the maternal kidneys is the chief exciting cause.

While we acknowledge our inability to state the actual cause, we do know this, that the elimination of toxic material from the system of pregnant women is not only essential, but imperative to her health. Fortunately for womankind, the practice of obstetrics is on a different plane from what it was; attention is now given to details, and especially important is that of preventive treatment. The ordering of proper clothes for a woman who is with child seems a trifling thing to mention, and yet it is a necessary precaution, as many a woman, pregnant, has subjected herself to sickness by being clad too lightly in inclement weather. It is often a hardship to those who are in apparent good health that a propr diet should be insisted upon, that rich and heavy food, meat, coffee and tea are not easily digested and assimilated, as is plain substantial food.

We are at best like machines, cleanliness and care being necessary requisites. And so it is essential to our well-being that the excretive and secretive organs are cleansed, and are not allowed to become sluggish. A clean skin, active kidneys and at least one action from the bowels every day are positive necessities to the health of a pregnant woman and an unborn child. Exercise in the form of walks out of doors should be insisted upon, and all ideas of propriety can be conformed to by the use of a little ingenuity in dress and the selecting of a suitable time. Frequent and systematic examinations of urine, especially so in the latter months of pregnancy, is a precaution absolutely essential to the proper management of obstetrical cases. Its importance may be judged from the following: Hirst found that out of 100 cases of eclampsia, albumin was present in 98, and in the reports of 322 cases from the Charitié, in Berlin, it was found 316 times. In the examination of urine Hirst also makes this statement: "The secretion of urea is valueless in comparison to albumin, and anyone who is ill-advised or inexperienced enough to attach much importance to urea elimination as a sign of gestational toxemia or threatened eclampsia, will be constantly making blunders in diagnosis and treatment." He who omits these routine important adjuncts to the treatment of obstetrical cases, but always waits for positive symptoms that forewarn us, may realize some day that carefulness on his part might have been the means of saving a life.

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* Read before the Academy of Medicine of Cincinnati, February 6, 1905.

I believe the statement is not contradicted that a rapid and steady increase of albumin is the most certain and constant premonitory sign of eclampsia that is known. Albumin found in a given case should mean an active skin, kidneys and bowels regulated, and a strict attention paid to diet, which should consist extensively of milk foods and little if any meat.

A careful pelvimetric examination of primiparæ, and of multiparæ who have had difficult labors, is a routine measure which I have adopted and followed out for the last ten years. I assure you it has been of great service to me, as case reports would show, if the scope of this paper did not limit my remarks to the treatment of puerperal eclampsia.

The use of the thyroid extract, as proposed by Nicholson in from five- to ten-grain doses, in cases where from all signs and symptoms one might reasonably suppose eclampsia would occur, is still on trial. Many cases have been reported where excellent results have followed its administration.

Our preventive and prophylactive indirect treatment having been cursorily stated, let us take up the active treatment.

A few years ago, as now, the active medicinal treatment consisted in chloroform, morphia, chloral, bromides, purgatives, sweating, and, upon the advice of our distinguished fellow-member, Dr. Thadeus Reamy, veratrum viride. So many papers and text-books having made these many forms of treatment familiar to you, it would be tiresome to again in detail review them.

A woman not having reached the viable age, or seven and one-half months of gestation, usually should be considered from an obstetrical medical standpoint and accordingly treated.

Case I.—The following case illustrates this feature:

Mrs. R., primipara, aged twenty-two. Nearly seven months pregnant. Was seized with convulsive seizures early one morning. The os unyielding and not dilated. Chloroform administered; one seizure after another followed the cessation of anesthetic. Morphia, chloral, croton oil, and other drugs were used. Drs. G. Haile, Wm. Johnson and E. G. Zinke were consultants. The convulsions ceased after the fourth day and apparent recovery followed, only traces of albumin remaining. The os at no time dilated. Some weeks after, during my summer vacation, Dr. Haile attended patient, she having a normal labor. Both woman and child are now living and healthy.

This was one of the most difficult cases I have ever encountered. Whether or not to bring on labor was the one question always in our minds. If the woman has passed the seven and one-half month of utero gestation our treatment would depend upon the severity of the convulsion and the condition of the os. Bleeding from the arm is now almost a thing of the past, and yet in a selected case it is justifiable; on the other hand, the replenishing of the blood and flushing by subcutaneous injections of salt solutions is a treatment now strongly commended. Dr. James Tyson has used hypodermoclysis extensively with excellent results, but says that profuse sweating, if possible, should always precede hypodermoclysis.

If, in our judgment, the case demands surgical intervention, what is the proper method to follow? The termination of pregnancy is now decided upon; what methods are to be considered?

1. The induction of labor by the use of the bougie.
2. Dilatation of os by the hands or instrumental means.
3. Cæsarean section.

1. For the method of inducing labor by the use of the bougie I refer you to any of the modern text-books on obstetrics.

2. The os soft, patulous, aid further the dilatation by the Harris method, "fingers of one hand," or the Edgar method, "fingers of both hands after the manner of dilating the sphincter ani;" apply forceps, or, if version be your selection, turn and deliver.

In my opinion an empty uterus after a convulsive seizure gives our patient a better chance than a uterus with a child.

CASE II.—Patient with Dr. Kemper on Gilbert avenue. Primipara about eight months' gestation. Urine loaded with albumin; hands, feet, and under eyelids swollen. Labor began at 9 A.M., and I saw the case with the doctor at 10 A.M. Convulsive seizure began at 11. Chloroform immediately given, the os further dilated, Harris method employed, and delivered the patient. No more convulsive seizures followed, and the woman recovered. Dr. Kemper told me that the child died the fifth day.

CASE III.—Mrs. G., aged twenty-two, primipara. Traces of albumin for two months before confinement. Miss Read, a trained nurse, was fortunately with patient when convulsive seizure began; she administered chloroform immediately, and upon my arrival I delivered patient. Two very hard convulsive seizures followed after delivery, and it was with great difficulty that they were controlled. A slow recovery followed. The child lived for two years and then died from inanition. This patient at the present time is apparently healthy, but has not had any children since, a period covering six years.

CASE IV.—Patient seen with Dr. William Johnson. Primipara, twenty years old. Was seized with a horrible convulsion; the doctor was sent for and he in turn asked me to see case with him. Chloroform administered, os easily dilated, Harris method employed. A seven-months' child immediately delivered, which was dead. This patient had one terrific convulsion a-half hour after delivery and died almost immediately.

CASE V.—Dr. Knight, of Madisonville, asked me to see this case. Primipara, aged nineteen, about six months pregnant. Had a hard convulsive seizure, and after consultation I advised waiting and not immediate delivery. Two days afterward I was again called by Dr. Knight, and the patient's condition was one of almost complete stupor and urine loaded with albumin, so we decided to deliver. The os was very rigid, hard to dilate and delivery difficult. Patient after delivery never rallied from her stupor and died some hours after.

CASE VI.—A negro woman, primipara, who came into hospital and agreed to do housework until her expected time of confinement, which was about four weeks off. Had scrubbed the floors the day before and slept well that night. Early the next morning one of the girls awaiting confinement noticed her heavy breathing, the nurse was called, patient removed to delivery room, and I was immediately summoned. One convulsion after another followed; morphia and chloroform were used, but just as soon as the chloroform was stopped another convulsion ensued. I dilated os, Harris method employed, and delivered her of a dead child; she never rallied, and died at 4 o'clock that same afternoon.

The os not patulous, not easily dilated or rigid, is it better to introduce the bougie and wait, or use one of the many bags on the market for slow dilitation, the Bossi dilator for rapid dilation, or do a vaginal section? In the selecting an immediate operation we might bear in mind that we do away with the danger of a convulsion occurring during the time required for inducing labor; that the woman's physical condition is better; that the danger of causing organic diseases of the liver, kidneys and myocardium would be avoided; and that the chances of the child living would be improved. At autopsies of women dying in puerperal convulsive seizures or immediately afterwards, lesions of the myocardium were very common. This is supposed to be due to the great strain upon the heart during the convulsion seizures.

Surgical neatness and good results have never resulted from tearing and lacerating any part of the tissues of the body. So with a huge monstrous instrument as that devised by Bossi, to force and lacerate the cervix, accomplishes what its inventor intended it to do—it forces open the cervix, regardless of consequences. Such an instrument should be relegated to the museum as a curiosity to future students to look at and wonder how some of our best obstetricians could be such enthusiasts as to even try such a cudgel. Instead of tearing and lacerating, why not make a clean cut, which will heal and result in a neat scar?

The Barnes, Champetier-de-Ribes and other dilating bags are not used as extensively as heretofore. They are distinct adjuncts to our armamentarium, but it seems that their usefulness is now being limited to selected cases. James D. Voorhees, of New York, uses a modified Champetier-de-Ribes bag, and in his last paper published in the *American Journal of Obstetrics*, January, 1905, he gives the following interesting statement: "In 4,272 cases at Sloane Maternity, I used the modified Champetier-de-Ribes bag 209 times, or once on an average in every 20 cases, and in my private work in 200 cases of labor I used the bag 39 times, or once in 5 cases." When we stop for a moment and give these figures careful consideration, I feel constrained to say that a good obstetrician is an enthusiast over the use of his modified Champetier-de-Ribes bag.

3. Vaginal Cæsarean section, in my judgment, is one of the few new operations that has come to stay. It is well to remember that long-continued manipulation is dangerous in obstetrical as well as in abdominal operations; that it is wise to consider operations which will not keep our patient under an anesthetic over a given time; that shock is a great factor in the treatment of puerperal eclampsia. The risk of infection is always the same; it holds good in this class of operative cases as in the performing any other surgical work. Trauma and dirt are prime factors in the causation of infection, while neatness, cleanliness, and good work are our strongest preventives.

The main steps of the operation, cursorily stated, are as follows: The bladder and rectum are freed as in the first steps of a vaginal hysterectomy, guarded from injury, and then the cervix is cut anteriorly and posteriorly, the incision made long enough, even to or through the os. All bleeding checked, membranes ruptured (if they have not already been broken), forceps applied or version, the child and placenta delivered. The uterus is then washed out with a hot salt solution, packed with plain gauze and the incision closed. The first dressing of gauze must be removed some time within the first forty-eight hours. Such an operation, done neatly, aseptically, in the average grave case of eclampsia, I believe, will lessen the mortality, as is seen at the present time.

Were I to again encounter another like that of Case V, I would without hesitation perform a vaginal Cæsarean section.

The choice of anesthetic has also been a source of contention, whether it should be chloroform or ether. It seems to me only a question of common sense; use the one that will work the least strain upon the heart.

No one would think of doing a vaginal Cæsarean section to deliver a dead child; then, of course, a craniotomy is the operation of choice.

Dr. Geo. M. Edebohls (*New York Medical Journal*, 1903), presents a new operation, "that of decapsulation of the kidneys," and the two cases that I recite speak for themselves.

Renal decapsulation was first proposed and performed by Edebohls for the cure of chronic Bright's. The encouraging results obtained led to a tentative expansion of the operation to other diseased conditions of the kidneys, such as acute hemorrhagic nephitis, acute polynephritis with miliary abscesses, polycystic renal degeneration, puerperal eclampsia.

CASE I.—Primipara, aged twenty-three. Had five convulsions. Cervix incised on either side, forceps applied and delivery accomplished; child lived only a few minutes. Forty-six hours after delivery patient had her sixth convulsion; this was followed by four further severe convulsions, chloroform being each time required to control. Another and the last convulsion occurred at this time. Urine, which was voided unconsciously, continued laden with albumin and casts, and the patient between the convulsions was permanently in a semi-comatose condition. Seventy-two hours after delivery decapsulation of both kidneys performed. Kidneys slightly enlarged, turbid from cloudy swelling, fatty and slightly soft to sight and touch. No tension of the capsule proper; this was easily separated from the entire surface of each kidney and removed *in toto*. No further convulsion after operation. All of the grave symptoms of uremia disappeared, and in two days after operation patient, although weak, was in a normal condition. Chemical and microscopical examination of urine for two weeks showed progressive improvement in the condition of the kidneys. Eleven weeks afterwards urine nearly normal and patient in good health.

CASE II.—Primipara, aged twenty. In this case total blindness supervened. Mental condition stupid, semi-consciousness and muttering active delirium. Totally blind, labored breathing, full soft pulse and temperature, but slightly above the normal. The lower extremities, abdominal walls and back were dropsical in the extreme, while the upper extremities and face were only slightly edematous. Cervix tightly closed, fetal movements and heart beat present. Renal decapsulation performed. Difficult operation on account of the dropsy. Left kidney increased in volume 50 per cent. above normal. Capsule thick, strong and so loose as to be corrugated, and could be pushed up in folds. Kidney surface after removal of capsule, a dirty gray, turbid, sluggish and stagnant appearance. Right kidney, identically in the same condition. Operation diagnosis was right and left acute or subacute parenchymatous nephritis. First twenty-four hours after operation almost complete suppression of urine; at the end of twenty-four hours, urine began to flow freely. Improvement in patient's condition followed after. Spontaneous commencement of labor followed forty-eight hours after operation. Commencing cervical dilatation at 10 A.M., twitchings of body at 10:30 A.M. and at 11 A.M. At 1 P.M. forceps applied and male child delivered, partly asphyxiated, but revived. On examination a second head was found presenting. After a little rest forceps applied and delivery effected at 3 P.M. Second child, male, breathed a few moments and then died. Progress of patient's improvement and general condition good. The puerperium ran a normal course. Three weeks after operation, patient left her bed and one week later resumed her duties in life. Report, four and one-half months after, patient had nursed her child continuously from birth.

The question now naturally arises in summing up our studies of the treatment of puerperal eclampsia, shall we go on following the same line of treatment in vogue for the past twenty years, which our text-books religiously copy from each other, or shall we try, in proper cases, some of the newer methods advised and discard that form of treatment which we know has not proved of benefit in the past?

I wish emphatically to state the following: Vaginal Cæsarean section is not the operation of choice in an ordinary puerperal convulsive seizure, but in the unusual, the grave case. Decapsulation of the kidneys may be a justifiable procedure in a few selected cases, and should I encounter such almost hopeless cases as are reported by Edebohls, I believe it would be my duty to my patient to at least give her a chance for life.

(*For discussion see p. 411.*)

MALIGNANT GROWTHS OF THE EYE.*

BY ADOLPH O. PFINGST, M.D.,
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Although malignant growths of the eyeball are relatively uncommon, the frequency of cancer in general has been on so rapid an increase that the report of four cases of malignant ocular tumors may be of some interest. Park, from his own observations, and from the observation of others, concludes that after the age of thirty one death in every fourteen is due to cancer. It would be difficult to determine just what percentage of this number occurs in the eye; however, we know that this organ is frequently the primary seat of malignant tumors.

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An interesting feature in malignant growths in general is the question of their etiology. Many hypotheses have been advanced to explain the origin of cancer, none of which have been generally accepted. Although Plimmer, Gaylord and others have, in recent years, isolated parasites from malignant tissue in their endeavor to throw light upon this question, there has been a lack of uniformity of results, and we can just as well adhere to the time-honored theories of Conheim, Billroth and Virchow as to take up the parasitic theory until more positive results have been obtained. Whatever the cause, it seems to be able to manifest itself at any part of the body with greater or less frequency.

Cancerous growths of the eye may arise inside of the ball—intra-ocular growths—or they may spring from the outside of the ball—extra-ocular growths. Of the latter, or, more strictly speaking, of the malignant epibulbar growths, we recognize epithelioma and sarcoma. Both varieties have a predilection for the conjunctiva at the limbus. Epitheliomata, soon after they begin to develop, take on rather a horny character, and as they are nearly all non-pigmented have a red or pinkish-gray color. They nearly always grow in the direction of the cornea, and as they increase in size hide this part of the eye from view. Most of them, when they attain such size, encroach upon the corneal tissue. If allowed to remain they attain considerable proportions and project between the lids as fungating masses. Their growth is usually slow, such tumors having been kept under observation for twenty or thirty years. Extension into the globe may take place along the nerves, blood-vessels and lymphatic spaces of the corneo-scleral margin.

Histologically, these neoplasms are constructed identically with epithelioma at other parts of the body. They usually affect persons advanced in life. Tendency to form metastases is slight.

Epibulbar sarcoma occurs less frequently than epithelioma. It is so rare that its existence is doubted by some authorities. They nearly always arise from the conjunctiva at the corneal margin, where they are said to develop from the pigmented connective tissue cells sometimes found at that point (J. Herbert Parsons, "Pathology of the Eye"). This accounts for the frequent pigmentation of sarcomata springing from this region. They usually develop as dark brown nodular masses, and are more or less spongy and bleed easily. Not infrequently their surface is ulcerated and covered with a muco-pus. Contrary to the epithelioma, the corneal tissue is usually not involved, or, if so, only the epithelial layer. It is only in the advanced stage that the substantia propria is invaded. The tumors are sometimes movable over the cornea and sclera, being attached by a pedicle at the margin. Epibulbar sarcomata may attain considerable size, Adamueck having reported one as large as an orange. They usually grow more rapidly than the epithelial growths. They occur nearly always in individuals advanced in life, although cases have been reported in children of eight and eleven years.

Microscopically, sarcoma of the limbus of the eye does not differ from sarcoma in other localities. Most of them are of the round-cell or small spindle-shaped variety. They are nearly always richly supplied with pigment, which is distributed between the cells and is also found in their protoplasm. Sarcoma of the limbus conjunctiva is said to be extremely malignant, and, unless very small and the eye otherwise perfect, should be dealt with radically by removal of the entire eye. Penetration of the eyeball by the malignant tissue by way of the blood-vessels and lymphatics may occur as in epithelioma, but not with the same frequency.

One of the specimens which I wish to present is an epibubular sarcoma recently removed with the eye from a man eighty-one years old. The patient gave a history of an injury to the affected eye when he was forty years old, with resulting loss of vision in that eye. The organ gave him no trouble for forty years. Two years ago he fell, striking his blind eye. About a month later he noticed a small nodule at the temporal edge of the cornea. This grew rapidly until it reached considerable proportions. When he consulted me his lids were wedged apart by a brown mass which covered the entire globe. It was impossible to determine whether the neoplasm was epibulbar, or whether it was an intra-ocular tumor which had perforated the ball and spread out anteriorly. As the patient was obnoxious to himself and his surroundings on account of the unsightly protruding mass and the constant discharge of muco-pus over the face, I was urged by the family to remove the growth. It was removed with the globe as far back as possible. Notwithstanding the fact that the operation did not consume more than three minutes, the patient had marked symptoms of shock, from which he only railed after the use of saline injections and stimulation.

Examination of the removed growth revealed that it was entirely on the outside of the eyeball. It was apparently attached at the cornea-scleral margin and overriding the sclera and cornea; from which it could be severed by breaking up some superficial adhesions. The mass was grayish-brown, mottled with dark brown, and was apparently very vascular. It measured one and a quarter inches in its horizontal diameter and one and a half inches vertically. Microscopically, the growth was made up of large polyhedral and spheroidal cells, with distinct large nuclei in some, of which nucleoli were visible. A number of the cells contained two nuclei and many were filled with a dark brown pigment. Similar pigment was also distributed irregularly between the cells. A stroma of delicate strands of fibrous connective tissue interlaced between the cells. A prominent feature of the histology of the growth was the abundance of newly-formed blood-vessels distributed throughout the mass.

At the advanced age of eighty-one and the growth limited to the anterior surface of the bulb, a recurrence would hardly be looked for in this case.

Epibulbar malignant growths have been reported beginning in the cornea and sclera, but as they are extremely rare merely need mention here.

Intra-ocular malignant growths nearly all arise in the uveal tract, and 85 per cent. of these from the choroid (Fuchs), 9 per cent. from the ciliary body, and 6 per cent. from the iris. The uveal growths are nearly all sarcomata, and, with few exceptions, are heavily pigmented, the unpigmented variety being found in the proportion of about one to ten or twelve of the melanotic variety. The unpigmented tumors which have been reported were nearly all of the round-cell variety, while the pigmented tumors were mostly made up of spindle-shaped cells. Sarcoma of the uveal tract represents about 0.03 to 0.06 per cent. of all eye cases. Primary myoma or myo-fibroma, carcinoma and angioma of the ciliary region are said to occur, but are extremely rare. A more common neoplasm which we encounter in the eye is glioma, which has its origin in the retina and sometimes in the optic nerve. It occurs only in childhood between the first and twelfth years. There has been some dispute as to its histogenesis, the latest view being that the tissue results from a hyperplasia of the neuroglia cells. Glioma is the only variety of tumor which has been observed arising in the retina. Macroscopically, it resembles normal brain substance, having a pinkish-gray color and soft texture. Microscopically, it is made up of closely-crowded round cells with large nuclei and scant amount of protoplasm. The cells are imbedded in a finely granular matrix.

The chief point of interest in connection with intra-ocular tumors is their clinical history, and as the growths of the retina and those of the uveal tract run a similar course they may be considered together. Knapp, Fuchs and others have divided their development into four stages. In the first stage, or period of latency, symptoms are very obscure. Slight defects of vision due to cloudiness of the humors of the eye may easily be overlooked. The first symptom observed by the patient may be a defect in the visual field corresponding to the position of the growth. Sometimes the retina becomes detached by the tumor beneath it and sudden blindness results. Invasion of the macula would also result in blindness. Glioma, occurring as it does in infancy when the faculty of observation is not well developed, does not fall into the hands of the physician as early as do the tumors occurring in adults. When glioma reaches a sufficient size to cause intra-ocular tension it can often be seen through the pupil as a golden reflex. It is not common for it to be seen earlier and thus lead to a diagnosis in the first stage. In the second stage of intra-ocular growths, or the stage of increased intra-ocular tension, the patient usually complains of pain in the eyeball, temple and occiput, severe enough to prevent sleep and at times to cause nausea and vomiting. The pain is usually of a remittent character. There is considerable pericorneal injection and the scleral vessels are distended and tortuous. The eyelids are more or less puffy, the cornea hazy and the aqueous humor cloudy. The pupil is usually dilated and rigid, the iris discolored and pushed forward, encroaching on the anterior chamber. Intra-ocular tension is nearly always much increased. These glaucomatous symptoms usually last until the growth perforates the eye, which marks the beginning of the third stage. When perforation takes place it usually occurs near the corneal margin, but it may occur at any part of the cornea or sclera. After leaving the globe, the growth nearly always increases rapidly in size and invades the surrounding orbital structures. The eyeball shrinks and is displaced laterally or forward. The disease may spread along the optic nerve, especially in the glioma. Upon reaching the chiasm bilateral blindness results, with or without cerebral pressure symptoms. After invasion of the loose orbital tissue has occurred, it is not uncommon for metastatic growths to develop at remote parts of the body, especially in the liver. Clinically, the tumor is then in its fourth stage. Occasionally, metastases occur in the earlier stages of development.

The diagnosis of intra-ocular growths is easy in the advanced periods of development. In the first stage it is frequently not diagnosed because the case is not often brought to the observation of the physician in this stage. When seen in this stage the diagnosis can be made with the ophthalmoscope, unless the growth is situated far forward near the ciliary body. In the second stage, when all of the symptoms of acute glaucoma are present, it is sometimes impossible to make a differential diagnosis between the two conditions. If the tumor can be made out with the aid of focal or transmitted light, the diagnosis could readily be made, and if along with the symptoms of acute glaucoma a detached retina can be made out, a tumor should be suspected. The history of diminishing vision for some time before the acute symptoms would also indicate the presence of an internal growth, while sudden occurrence of the acute symptoms and absence of a scotoma in the visual field would point toward glaucoma. In children a number of inflammatory conditions of the eye which lead to purulent or plastic deposits in the vitreous, and which have as a class been termed pseudo-glioma, have frequently been mistaken for true glioma. The most frequent cause of such deposits is cerebro-spinal meningitis, but the exanthematous fevers, diphtheria, whooping-cough, syphilitic affections, etc., also bring it about. In these cases the history of some constitutional trouble followed by an inflammatory condition of the eye and the resulting adhesions of the iris and deposits in the vitreous are the diagnostic points. In pseudo-glioma the tension is nearly always diminished, while in glioma it is nearly always more or less increased.

The prognosis of intra-ocular sarcoma, owing to the possibilty of early and complete removal by enucleation before involvement of surrounding structures has occurred, is favorable as compared with growths of the same character at other situations. But even in the orbit recurrence is the rule. Glioma is very malignant, and usually terminates fatally in several years, whether operated upon or not.

I have brought three specimens which illustrate intra-ocular sarcoma in different stages of development. One of the specimens is a typical leuco-sarcoma. In the first specimen you will notice a small pigmented mass (14x12x8 m. m.) situated inside the eye near the optic nerve. This was removed from a man forty years of age in August, 1897. It represents the growth in the very beginning of the second stage of development, the eye having been inflamed and painful for only two weeks when I first saw it. At the time the eye was hard and the patient was suffering pain. Vision had been reduced to a perception of light. Had this patient developed symptoms earlier and had consulted an ophthalmologist before symptoms of acute glaucoma developed and the humors had become cloudy, the position of the growth near the optic nerve would have made an early ophthalmoscopic diagnosis easy. I was advised a few weeks ago by the patient's family physician, Dr. Cornelius, of Berea, that there had been no recurrence in this case and that the man is in apparently good health.

The other specimen was also removed from a man forty years old, also in August, 1897. The patient had been suffering for over a year with pain in the eye and temple of the affected side. It is easily seen that the entire vitreous chamber is filled with a coal-black mass, the sclera and cornea being intact. This growth was in the advanced second stage. This patient was seen about a year after the enucleation, when there had been no return of the growth. Since then I have been unable to keep him under observation.

The third specimen is a very rare and pretty one. It is a typical leuco sarcoma of the choroid which was removed with the eyeball after perforation of the globe had taken place. It was, in other words, in the third stage of development. The patient died of multiple sarcoma of the liver about sixteen months after the removal of the eye.

These specimens were all subjected to a microscopic examination and were all undoubted cases of sarcoma. The half globes not used for microscopic examination have been mounted by the method of Priestly Smith.

DISCUSSION.

DR.———: I enjoyed the paper very much. The subject of malignant growths of the eye is very interesting to me, but not so interesting to the practitioner as to the oculist himself. I am very much in favor of removing the diseased tissues. We cannot always tell just when we have removed all of the diseased tissues; therefore, I think we should remove everything.

DR. GRIFFITH: I wish to say that I think the paper covered the ground in a very nice manner. It was gotten up very nicely indeed. I do not exactly agree with everything that has been said on the subject. The patient might object to some of these things. Dr. Shoemaker referred a patient to me after she had consulted another oculist. This man said her eye could not be removed so that she could wear an artificial eye. The loss of the eye, in the first place, was a very grave thing, but it was even worse when she thought she would not be able to wear an artificial eye. It would be very marked indeed. I removed the ball so that she could wear the artificial eye, and that has been five or six years ago, and I do not know of there being any return. Has there been, Dr. Shoemaker?

DR. SHOEMAKER: No, there has not been.

DR. GRIFFITH: You cannot always do just as you want to. You want to plan for the best interests of the patient. In looking over the history of these cases I find that it is stated that even when the operation is undertaken early, the secondary effects are almost as frequent as when the operation is done considerable later.

DR. PFINGST: I want to thank the gentlemen for their discussion of the paper, but I do not wish to add anything further.

THE QUESTION OF WOUND INFECTION, WITH SPECIAL REGARD TO THOSE DUE TO CATGUT.

BY J. WIRT ROBINSON, M.D.,
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It seems that in a certain percentage of all "clean cases" a more or less virulent infection occurs, which at times extends as far as suppuration. To say the least, the condition is annoying to the surgeon and dangerous to the patient.

Following several laparotomies in which the intestines were opened—such as in an appendectomy—infection, followed by suppuration, occurred. Examination of the pus showed the presence of the colon bacilli. In other operations—laparotomies and others—infection and suppuration occurred. Examination of the pus in these cases also showed the presence of the colon bacilli. In the cases in which the intestinal tract had been opened I attributed the infection to the escape of some of the contents, but the other cases were not so easily explained at first. The catgut we used was made by the most reliable firms and was the best obtainable. It seemed strange that the colon bacilli, which are constantly getting on our hands, as demonstrated by Winslow,[1] should not have been removed by the scrubbing or destroyed by the aniseptics.

In all the cases I noticed several points:

First, the signs of an infection did not appear until after the fifth day. The post-operative temperature and leucocytosis would about return to normal.

Second, the symptoms were usually mild. Pain would not be severe nor the rise in temperature over 101°. Other surgeons have not always escaped so fortunately, as there are cases of deaths reported, as in Dr. Moriarta's[2] two cases. He now voices his opinion that it is not safe to use the prepared catgut on the market.

Third, all of our cases of infection went on to suppuration and the suppuration always began in the subcutaneous tissues.

The suppuration was usually of short duration, after free drainage had been secured.

Fourth, in the laparotomy cases the peritoneum did not seem to be involved.

From this fact and the late onset I came to the conclusion that in none of the cases did the infecting bacteria come from the intestinal tract. I then decided to test the catgut and determine whether it was sterile or not. Pieces of both plain and pykotanin catgut of different sizes and made by various manufacturers were placed in bouillon culture media. In 70 per cent. of the tests in from three to ten days a growth could be seen. Subcultures and microscopical examination demonstrated a pure culture of the colon bacilli. In the bouillon cultures the growths were attached to the catgut and there was no other clouding of the media until quite late.

The variation in time before the appearance of the first growth depended in most of the cases, but not all, upon the size of the catgut. The sub-cultures also showed variations in the rapidity of the growths, which evidently shows a variation in the virulency of the bacilli from different specimens.

It seems that, from the large percentage of cases that a pus-producing bacteria can be cultivated from catgut prepared by reliable firms, the methods of sterilization must be defective. Hirst[3] found that boiling in alcohol at 240° F. did not sterilize catgut. The experiments by Clark,[4] of Johns Hopkins Hospital, are of value, but not conclusive. He infected catgut with various bacteria and then boiled in cumol at 165° C. Following this treatment he was unable to obtain cultures from the catgut. But in these cases there was direct exposure of the bacteria to the boiling cumol, which is not the case in sterilizing catgut. In this case the bacteria are in the inner portions of the catgut and are protected from the solution.

Pyoktanin catgut is a favorite with many surgeons. The blue color is certainly of value in aiding one to see it, but the value of the process for rendering the catgut sterile amounts to very little. To understand why it is inefficient all that is necessary is to soften a piece with water, spread between two slides, and examine with the microscope. Only from 10 per cent. to 50 per cent. of the gut will be found to be stained, depending upon what size is examined.

The failure of a chemical to reach all portions of the gut will explain why many methods of treatment are not satisfactory. There are truly very few chemicals that have much greater penetrating power than has pyoktanin. On this basis alone I do not believe future experiments with the iodine method of preparing catgut, which is advocated by Claudius,[5] Senn,[6] White,[7] Moschowitz,[8] Burney,[9] and others, will prove it to be as reliable as it is now thought to be. Van Hook[10] does not find the claims substantiated.

The failure of the methods in which heat is used is not so hard to understand, if we remember a few things. It is well known that chemical reactions—and sterilizing is one—take place poorly or not at all if water is not present. And how much dry heat—200° to 400° F.—can be applied to the animal tissues for an hour at a time without doing apparent injury?

The question arises: Why have at times cultures from catgut shown it to be sterile and yet a colon bacilli infection occur after placing the gut in tissues? I believe it is because the methods of making the cultures have been faulty. The reaction of the media must be just right and sufficient time must be allowed before coming to a conclusion. It is from the deeper and not the outer portions of the gut that the bacilli are more apt to lie, and time is necessary to first liberate them and then to obtain a growth.

Another question is: Why are not more cases infected than show signs of it? This depends upon several well-known factors. First, upon the tissue involved. I have already alluded to the fact that the peritoneum resisted the infection, while the tissues of the abdominal wall external to the peritoneum did not. Even in a case where much catgut was used in ligating the stump of an amputated omentum there were no signs of peritoneal infection, while suppuration occurred in the muscular tissues. The amount of catgut used is a factor. As in other cases, much depends upon the size of the dose. Without any doubt much depends upon the condition of the patient. We are able to grow many bacteria upon culture media that will not grow in the living tissues unless they are in a state of quite low vitality.

We should be careful in determining the cause of an infection following an operation. A careful bacteriological examination should be made to determine the bacteria present.

Catgut infection does not often appear before the fifth day, and may not give evidence for two weeks. If an early infection occurs it may have several sources.

If it starts along the tract of the sutures and is a staphylococcus epidermis albus, the patient's skin has not been well cleansed, or infection comes from a hair follicle which is extremely hard to clean well.

If it be due to a staphylococcus pyogenes aureus some one handling the instruments or tissues has probably had their hands in contact with boils or other abscesses.

In streptococci infections the bacteria may have been carried on the hands after examining such cases as scarlet fever, diphtheria, etc., in which streptococci are active often, even if not the cause of the disease.

If a late infection occur one should bear in mind the possibility of a hematogenous origin, especially if the pneumococci are present, as in a case I have observed.

I regret to say at the present time I have little to offer in the preparation of a safe and reliable catgut. Moschowitz states that the iodized catgut is slow in absorption and loses in tensile strength.

The method advocated by Hirst[11] is objectionable in that the gut requires three weeks for absorption.

The method of boiling the catgut in a saturated solution of ammonium sulphate, as recommended by Elsberg,[12] appears the most rational of any. Van Hook[13] praises it very highly.

From recent experiments with a much modified formaldehyde process I believe catgut can be prepared that will not only be absolutely sterile, and of full tensile strength, but also that the time required for absorption can be quite accurately regulated. I shall write on the subject later after more experiments have been performed.

In conclusion, I would urge the use of as little catgut as possible, and the frequent testing of the gut used for the presence of bacteria.

Silkworm-gut should be used as much as possible in closing wounds. The detestable mass suture can be avoided by using the figure of-8 method, or the one advoted by Dr. Charles Davison.[14]

BIBLIOGRAPHY.

1. Winslow: Journal of Medical Research, 1903, x, 463.
2. Moriarta: N. Y. State Medical Journal, 1904, iv, 223.
3. Hirst: American Journal of Obstetrics, 1899, 39. 340.
4. Quoted in Moriarta's article.
5. Claudius: Deut. Zeit. für Chirurgie, Vol. 64, p. 489.
6. Senn: Journal American Medical Association, 1903, xl, 817.
7. White: American Journal of Obstetrics, xliv, 605.
8. Moschowitz: Medical Record, 1904, lxv, 772.
9. Burney: Boston Medical and Surgical Journal, 1904, cl, 504
10. Van Hook: Medical News, 1904, 84, 934.
11. Hirst: Loc. cit.
12. Elsberg: Centralblatt für Chirurgie, 1900, p. 537.
13. Van Hook: Loc. cit.
14. Davison: Chicago Clinical Record, 1898, xi, 1-7.

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

Meeting of February 27, 1905.

The President, S. P. Kramer, M.D.,
in the Chair.

Samuel Iglauer, M.D., Secretary.

Report of 445 Cases of Nitrous Oxide-Ether Administrations in Further Recommendation of the Advantages for Short and Long General Anesthesia.

Dr. Robert Sattler: The subject of general anesthesia is one of common interest. All recognize and some know from personal experience that mysterious element of danger which attends every case in which general anesthesia becomes necessary.

We know also that the most careful administration—and this is especially true of chloroform—by one whose experience has taught much or all which can be known about its dangers and safest methods of its use, it may be attended by death. On the other hand, it must be admitted that the most reckless induction of anesthesia, from ignorance of its dangers and inexperience or in defiance of that which should be generally known by those who assume this important task and are careless, may not be attended by unfavorable results.

This brings up the complex question of idiosyncrasy, together with the mystery of its declaration in a particular patient at that particular time. It also calls attention to that which is perhaps a little better understood, the inherent dangerous properties of the agents employed for general anesthesia, and of chloroform in particular. This ever - present and undiscoverable danger which attends every case, but applies only to one out of thousands of administrations for the production of general anesthesia, must in such exceptional instances be associated with uncommon individual causes which happen to be active at that particular time, and whose simultaneous declaration may explain the sudden and permanent inhibition of the circulatory or respiratory centres. With chloroform this takes place so quickly that long before the anesthetist or the surgeon realizes the gravity of its meaning, the patient is lost in death. Such an experience was mine years ago. At the request of Dr. P. S. Conner, I administered chloroform to enable him to make a more accurate diagnosis of a fracture of the humerus. The patient was a woman of about fifty years, whose previous history and present condition offered us no contraindication for the use of a general anesthetic. She was as quiet from the moment she was asked to inhale the anesthetic as she was emotional and excitable before. In the flash of a few moments, having used at the maximum estimate thirty drops of Squibb's chloroform, her respiration became shallow and almost at once inaudible; pupils widely dilated; face, especially lips and eyelids, cyanotic; pulse thready. She was dead.

Four years ago it was my turn again to meet a second case. To all appearances the man was strong and healthy. He had an acute empyema of the mastoid and surgery was imperative. Chloroform was chosen as the agent because of the probability of meningeal complications. He was not at all excited before the operation. He had not taken more than a few inhalations before I noticed an ashy pallor, which gave way as quickly to a mild cyanosis of the lips, eyelids and finger-nails, and simultaneously with this respiration became shallow and almost at once inaudible. The pulse could be felt a little longer and all was over.

During this long interval I have had many and varied experiences with chloroform and ether, in combination or alone; with the A. C. E. mixture; also and more limited with ethyl chloride; with chloroform particularly, especially in neurotic children in whom the recovery from the anesthetic was alarming and tedious, and with ether in old subjects during and following the administration. In all my operations during the last fifteen years I have made one person responsible for the anesthesia. He had no other duty, and gives his entire attention to it, before, during and after the operation.

During the last years, after a visit to New York, when I first saw a practical demonstration of nitrous oxide-ether anesthesia after the method of Bennett, I was so favorably impressed that it was determined to put it to the test. Dr. Schenck, who at that time and before had administered anesthetics for me, made a personal investigation, and since February, 1901, we have, with few exceptions, used the nitrous oxide-ether for all operations requiring a general anesthetic at the Ophthalmic Hospital. In our first series we adopted the plan ordinarily followed of inducing nitrous oxide anesthesia first and at once following this with ether by the aid of the Bennett inhaler. Ophthalmic surgery for which local anesthesia is inadvisable requires profound narcosis, with abolition of all reflexes. We found that under complete nitrous oxide narcosis, with its great cyanosis and intense venous stasis, the operation was retarded and other objectionable features were added. At the suggestion of Dr. Ray, complete nitrous oxide anesthesia was not induced, but just before it came about ether was turned on and this eliminated the objectionable features referred to for eye and ear operations. For adenoids, tonsil and nasal operations it was also found more advantageous, in that it avoids the excessive cyanosis and renders the operation more than a little easier and more rapid. It is not at all unlikely that with nitrous oxide gas the few first inhalations are the ones that really count, as prolongation of the transitory asphyxia is brought about as much by cause excited in the patient. The stimulating effect of ether with nitrous oxide such as is left in the bag does not in any way interrupt, but rather furthers, a transition from one to the ether. In other words, the period of complete anesthesia is much shorter with nitrous oxide alone and much longer than with nitrous oxide complete followed by ether. It is more than a little shorter than the latter and longer than the former if the plan referred to of giving the minimum amount of nitrous oxide and commencing with the ether before the entire supply has been exhausted, and, in the judgment of the anesthetist, combining the mixture of the two in varying proportion, or giving ether alone.

We have records of 445 nitrous oxide-ether administrations, and with the last 150 the plan just detailed has been practiced. Here it is in brief in the words of Dr. Ray:

"*Method of Administration of Nitrous Oxide-Ether*.—Dr. Bennett's apparatus is used. The bag for holding the nitrous oxide is never distended to its full capacity. The gauze for holding the ether is saturated with one half ounce of ether. The mask is placed over patient's mouth and nose, the nitrous oxide valve is opened, the gas being inhaled gradually, as the pressure in nitrous oxide bag is not as great as when the bag is fully distended. This is of importance, as it prevents the cyanosis, which always is present when the gas is inhaled under greater pressure. After the gas has about half passed and has been inhaled by the patient, the ether valve is gradually turned until the patient inhales both nitrous oxide, ether and the carbonic oxide of his own respirations. This he is allowed to do for about a half minute, and then the nitrous oxide bag is removed, and ether administered through the apparatus in the usual manner.

"Sufficient narcosis can be had for minor operations in about two and a half minutes, profound in about three and a half minutes. With an operation lasting thirty to forty minutes, from four to six ounces of ether are used.

"The unpleasant after-effects of the ordinary ether narcosis seldom occur, nausea and vomiting being unusual. Patient recovers consciousness in less than ten minutes."

A Case of Puerperal Sepsis in which Serum Treatment Seemed Beneficial.

DR. W. D. PORTER: In December, 1904, Mrs. A., was referred to me by Dr. A. W. Johnstone. She was a primipara, almost at full term. The salient points in her history are as follows:

Her age is forty-three years. Mestruation began when she was thirteen years old, and this function appears to have been normal. At the age of twenty-nine she married. Up to this time she had no symptoms referable to the uterus. Soon after marriage she noticed that there was a slight protrusion from the vulva. A physician was consulted, who discovered that the trouble was due to abnormal length of the cervix. For some years she was treated with pessaries, tampons and dilatation at the hands of several physicians. Within this period she developed dysmenorrhea, the pain usually being greatest in the region of the left ovary. Since 1900 she has had no treatment,

In April, 1904, she missed a period, and there was no return of her menstruation in the ensuing months. After four or five months she was examined by local physicians, none of whom would make a positive diagnosis. In September she came to the city and consulted Dr. Johnstone, who diagnosed pregnancy.

I first saw the patient twenty-five days before her labor. At this time the cervix appeared to be about three inches in length, with a diameter a little more than an inch. It was quite hard and firm. An examination made a few days before labor indicated slight shortening but no perceptible softening.

Labor began on January 7, at 2 A.M. The pains came at intervals of fifteen minutes. After a few hours they were five minutes apart, and severe enough to cause considerable suffering. After seven hours of labor the cervix was almost obliterated. Three hours later two fingers could be inserted. The tissues around the os were thick and tense. She was having distressing pains at three to five minute intervals. A half-grain of morphine was given hypodermically to relieve her suffering and in the hope of hastening dilatation. The pains continued with little or no diminution in frequency, but were much better borne.

Nineteen hours after the inception of labor the os was about the size of a silver dollar, but the tissues were thick and conveyed to the fingers the impression of strong resistance. At this time it was found that the occiput was posterior and to the right. It is not probable, however, that the position was a factor in the delay, as at least two-thirds of the head was in the pelvis, and the membranes were intact.

It was decided to resort to the Champetier de Ribes bag to hasten dilatation. The patient was anesthetized and the largest bag was introduced. The head was gradually pushed up by the fingers as the bag was filled. Uterine contractions recurred at intervals of a few minutes, and were stimulated and supplemented by slight traction on the bag.

In about two hours the bag was expelled, having dilated both cervix and perineum. During this period the patient was given but little chloroform and at times was conscious. At this point she was aguin anesthetized. The head was rotated, bimanually, into the right occipito-anterior position, the forceps were applied and the child was easily delivered. This was a few minutes before midnight and twenty-two hours after the beginning of labor.

The perineum was slightly torn by the bag. This tear was increased by the head and three or four stitches were required to close it.

There was some tendency to uterine inertia, which was overcome by massage and ergot.

For two days she did well, the pulse and temperature being practically normal. Forty-six hours after the termination of labor the temperature was 100°. By the middle of the third day it was 104.5°, and the pulse was 130. She complained of feeling chilly but there was not a distinct chill either then or subsequently. Acetanilid in three grain doses reduced the temperature about two degrees, but in a few hours it would be up again. Early in the fourth day two four-grain doses were given at intervals of two hours. These brought the noon temperature to 99.8°, and the pulse, which had varied from 110 to 130, dropped to 96. But from this time until after midnight there was a continuous rise of temperature, which was but slightly interrupted by acetanilid and sponge baths.

At 2 A.M. on the fifth day the temperature reached 105.4°. The patient was exceedingly restless. There was an anxious expression of countenance. The respirations were rapid and shallow, and it was with considerable effort that she could speak more than two or three words in succession.

The lochia had been normal in quantity and odorless. Later it became scanty, but it was free from odor throughout the illness. There was very slight abdominal distension at any time. At all times there was tenderness, and occasionally there was pain to the left of the uterine fundus. A careful vaginal examination failed to reveal a local cause of the trouble.

Up to this time we had hoped that the fever would be transient, but now we were forced to realize that we were dealing with a serious and probably a streptococcus infection. As early as it could be obtained on this, the fifth day, anti-streptococcic serum was used. In the first twenty-four hours 40 c.c. were used. Six hours after the first injection the temperature began to fall. This fall continued until 6 A.M. of the next day, reaching 101° at this time. Acetanilid was not used after the resort to the serum.

On the sixth day 20 c.c. were used, and the same quantity on the seventh day. On the seventh day the temperature rose to 103.5°, and on the eighth day reached 104.8°, indicating, I think, that the serum had been used in insufficient quantities. On the eighth day 30 c.c. and on the ninth day 40 c.c. were used. As the apparent result, there was a prompt reduction in temperature. Subsequently there was only a slight daily rise except on the twelfth day, when the temperature reached 102.6°. This was due to intestinal conditions. A dose of castor oil resulted in a large stool of foul-smelling curds, and the temperature promptly came down to normal. The serum was used last on the tenth day, having been used on six successive days.

There was no indication for douches or local treatment of any kind, and none were used.

Basing an opinion on the severity of the symptoms and the odorless character of the lochia, this was probably a case of unmixed streptococcus infection.

The menstrual pain in the left ovary for some years previous to pregnancy, and the tenderness and pain to the left of the uterus in the puerperium, suggest the possibility that some latent trouble was lighted up by trauma incident to labor. Six weeks after labor the appendages on the left side were found slightly enlarged and tender, but movable. At this examination it was found that the only damage to the cervix was a slight tear on the left side. It is scarcely probable that the fever was due to trouble with these appendages. To adopt this theory would be to evade the more rational but less comfortable one, that through some flaw in the technique the patient was infected at the time of labor.

It is well known that the use of the Champetier de Ribes bag increases the danger of sepsis. I have used it in only one other instance. That was a case of contracted pelvis in which the head would not engage. I attempted manual dilatation with anesthesia, but was unable to accomplish much. I then resorted to the bag, and, after its expulsion, delivered by podalic version. In that case the highest temperature was 99°.

It is possible that the bag was a factor in causing the infection of the case reported, but under similar circumstances I would not hesitate to use it.

Dr. Johnstone saw the patient daily during her serious illness, and I am indebted to him for valuable coöperation.

Double Dermoid of the Ovary.

DR. JOHN W. WITHROW: Miss M., aged seventeen, presented herself on October 30 for examination because of an abdominal tumor of small size in the right iliac region, which she said she had noticed almost two years before. This growth had remained about the same size as when first discovered until five or six months ago, when it began to enlarge slowly. She had not suffered any pain, was in vigorous health, well nourished, and there was no disturbance of menstruation.

Physical examination disclosed a tumor the size of a cocoanut in the right iliac region, which was quite freely movable. It could be carried up above the anterior superior spine of the ilium, and over slightly to the left of the median line. It was not possible to say that fluctuation was present.

Diagnosis was made of ovarian cyst, probably dermoid. Vaginal examination was attempted, but, owing to a rigid hymen and pain caused by the effort at examination, it was not carried out.

Patient was operated on November 1, and after making incision, a movable tumor somewhat fluctuant presented. Feeling rather sure that the tumor was dermoid, and remembering the precaution given by all authorities against spilling any of the contents in the abdominal cavity, and endeavoring at the same time to deliver the tumor through the smallest possible abdominal incision, I grasped the pedicle close to the tumor with a clamp, and placing another clamp outside of this, cut the tumor free by cutting the pedicle between the clamps. By making traction on the clamp attached to the tumor it was delivered through a rather small median incision by traction on the clamp.

After the removal of this tumor I was surprised to find another tumor of similar size and appearance of the left ovary, but rather firmly adherent in the pelvis behind the uterus. After separating the adhesion between the wall of the pelvic cavity and the tumor, I then performed the same operation as before, and grasped the pedicle with a clamp close to the tumor, placing another clamp outside of this on the broad ligament, and cutting between them. After delivering this tumor by the pedicle with a clamp, a portion of the wall of the cyst opposite to the clamp, which had been firmly adherent down in the pelvis, gave way, and a small quantity of the contents of the tumor escaped. The pelvic cavity and the abdomen were carefully wiped out clean, the pedicle secured and completely covered in by the peritoneum. The abdomen closed in the usual manner.

Patient made very rapid recovery and left the hospital in twenty-one days. Each of these tumors weighed one pound; both were dermoids containing characteristic fatty matter too thick to flow through any trocar. Each tumor contained a very considerable quantity of rather long hair, but no teeth or bones were found.

The case is unique in presenting dermoids of both ovaries apparently occupying the entire ovary. I have had a number of experiences with dermoids, this being the sixth case. I have never before met with a double dermoid.

I would recommend the method employed of delivering small tumors when there is good reason for suspecting any irritant qualities on the part of its contents. Under such circumstances a trocar or any variety of volcellum is likely to cause leakage. Delivery by a clamp to the pedicle as a tractor makes the procedure possible through a smaller opening than if the hand and fingers were used in lifting the tumor out, since the diameter of the incision would have to be equal to that of the tumor in addition to the thickness of the hand and fingers.

Bloodless Placenta Previa Centralis.

Dr. Charles T. Souther: Mrs. A., aged twenty-six, white.

Family history: Mother of five children, three living and well; two miscarriages, cause not clear.

Present history: General health fairly good. Four and a half to five months pregnant, and was troubled with irregular bleeding, which she termed "flooding," since her conception.

I was called to see her first on June 25, 1904, and found her in bed. Slight elevation of temperature and losing some blood. Examination at this time revealed cervix not dilated, but unusually soft. With suprarenal powder, three grains every four hours. and rest in bed the hemorrhages ceased, and she was up and going around doing her work and had no more trouble until July 10, when I was summoned at 12 P.M. and found her in labor. Os dilated to size of dollar and she had lost several clots, as she expressed it, which were found to be placental tissue. Careful examination revealed a placenta previa centralis. As there was no bleeding at this time I did not interfere. Pains kept up, and at 2:15 A.M. the uterus emptied itself, placenta and fetus. The birth was dry, there being no rupture of the sack, or rather a rupture dating back, as best I could find out, about eight weeks. Placenta and child were born at one and the same pain, placenta coming in front of the child's head. The waters having ruptured some time previous, the child was out of the amniotic sack, all but its head, the opening in the sack having contracted around the child's neck almost like a purse string. The placenta and membranes had to be taken off the child's head after it was expelled. The child was born alive and made efforts at crying, and lived about two hours. The mother lost practically no blood, hardly two ounces. The placenta did not bleed after being expelled; neither did the cord when cut, yet the child was alive. The uterus contracted rather nicely. The mother had some temperature (101° F.) at delivery, which continued for two days, at which time I irrigated the uterus with about two gallons of a 1:4,000 permanganate of potassium, and her temperature came down and she went on to convalescence in a very nice way. I made a bimanual examination at the end of six weeks and found everything normal.

The case is reported for its rather unusual termination in bloodless delivery. Why the child could live by the nourishment received through the placenta and the mother not lose any blood is not very clear to me.

Retained Placenta.

Mrs. O., mother of one child, no abortions or miscarriages; first pregnancy normal except for instrumental delivery.

Present pregnancy: Gives history of some right sided abdominal pain, which followed spells of constipation and was accompanied by slight chilly sensations and some rise of temperature. Appendicitis was suspected, but not absolutely diagnosed. She had three such attacks during present pregnancy, and was still slightly tender at time of delivery, when she came under my care.

Was called at 5:30 A.M., May 11, 1904, and found patient in first stage of labor. Os dilated to size of half-dollar and pains regular. Labor went on rather rapidly and she was delivered of a twelve-pound girl at 9:30 A.M. same day. The child was in fine condition, and some twenty minutes was allowed for the cord to reduce or cease its pulsation, but there was little change and some bleeding. I clamped, tied and cut the cord and gave the child to the nurse, and directed my attention to the mother. The uterus up to this time had not contracted properly, neither could I use the "Crede method" because I could not bring the fundus down. The uterine mass was somewhat long and extended up toward the liver. The patient was now bleeding rather freely and I decided to deliver with my hand, as she had had forty minutes' time and all the external manipulation I could exercise. After rapidly cleansing my hand and resuming slight narcosis, I introduced my hand and found the uterus absolutely flaccid, placenta adherent throughout. The placenta was separated with difficulty and the fundus of the uterus seemed adherent to something in the upper right side of the abdomen. A perceptible freeing of an adhesion could be felt, when the uterus finally yielded to traction and came down. The placenta was now brought out with my hand, and the uterus fairly squeezed by bimanual manipulation and contraction remained good.

I believe this retained placenta was due to the uterine adhesion, which prevented the uterus from contracting and forcing a placental separation. A uterus certainly cannot separate a placenta from its wall when it is mechanically prevented from contraction, as there is no other way, except by contraction, for a placenta to be squeezed off from its attachment and be expelled. Might not this be classed as a more prominent etiological factor in retained placenta?

An Infant Born With No Stomach.

DR. ROBERT CAROTHERS: A male infant, born Friday, November 18, 1904. Second child of perfectly healthy parents. Normal labor, no outward signs of anything abnormal and a strong vigorous cry.

November 19. An unusual amount of mucus coming from the nose and mouth. Bowels moved, passed urine and nurses.

November 20. A yellow fluid coming from the nose and mouth; first thought to be pus from its resemblance to same, afterwards decided to be milk tinged with cholostrum and mucus. An examination of nose, mouth and throat revealed nothing abnormal. A catheter passed into the esophagus met with a resistance at about the opening to the stomach. Nursings, which had been vigorous, were ordered at intervals of four hours, and only of five minutes' duration.

November 21. Baby very weak, still regurgitating fluid, which is more like normal milk. Nursings discontinued, stimulation with whisky and warm water and feeding with peptonized milk was given per rectum.

November 22. No change.

November 23. Baby died at 3:30 A.M. Autopsy made at noon, father and nurse present, undertaker in waiting. Nose, mouth, pharynx, heart and lungs normal; esophagus enlarged and prominent; stopped at diaphragm which made a floor for it. An opening into the esophagus near the diaphragm was followed by an escape of milk. Liver, spleen, pancreas and kidneys normal. No omentum; large intestine free in the abdominal cavity, so that it moved with about as much freedom as the small intestine; small intestine at the cecum as large as the colon; tracing it upward it gradually became very small, then a fibrous cord, then nothing, *no stomach*, not even an attempt at same, or a band connecting the intestine and esophagus. The common duct emptied into some portion of the intestine near the upper end.

This case cannot, for obvious reasons, be accompanied with either specimen or photograph. I ask you to take my word for the statements made. It is, however, of such unusual occurrence that even with this handicap I ask your indulgence.

Meeting of February 6, 1905.

Strangulated Littre and Femoral Hernia.

DR. H. J. WHITACRE: Mrs. O., aged thirty-eight, housewife, admitted January 28, 1905. Discharged February 22, 1905.

Personal History.—Patient has always enjoyed good health except for typhoid fever and pneumonia five years ago. Patient has three children.

Last August patient first noticed a swelling in the left groin which was accompanied by some pain. This pain continued for one day, but she was able to continue her household duties. She has had frequent slight pains at intervals since this time, particularly in region of umbilicus but nothing severe, and has suffered no symptoms of acute intestinal obstruction. Twenty-four hours before I first saw this patient, on January 10, 1905, she had suffered severe pain in the abdomen, particularly in the umbilicus; frequent and severe vomiting and the bowels had not moved. Dr. Good had administered large enemata, both simple and cathartic, but had been unable to obtain a movement. The vomiting took on a fecal character at the end of the first twenty-four hours. The rupture was discovered, but reduced so easily that this was not considered to be the cause of the obstruction. When I saw patient on January 11 she had an anxious expression, complained of severe pain, which she located near the umbilicus; the temperature was 99°, pulse 90, respiration 20. There was no abdominal tenderness, no tumor in the abdomen, no abdominal distension, and the hernia, which was femoral in nature, could be easily reduced or caused to recur by bearing down. I did not believe that the hernia was causing the symptoms, and the absence of the symptoms mentioned above led me to believe that it was more in the nature of a severe colic attendant upon impaction. Small doses of calomel, one-fifth grain every half-hour for eight doses, followed first by a bottle of citrate of magnesia, then by a cathartic element consisting of one ounce each of castor oil, glycerine and epsom salts, resulted in a free movement of the bowels next morning. With this movement of the bowels the pain was relieved, but the patient remained in bed for about ten days. She felt almost well from this time until January 28, when she again suffered constant pain in the left groin and in the umbilicus. She vomited and felt very much prostrated. The hernia was now out and could not be reduced. At 7 o'clock in the evening, twelve hours after the onsent, pain still continued; the hernia was not to be reduced after two attempts of three minutes each, and I was asked to see the patient. The symptoms were so definite, however, that I asked Dr. Good to bring patient to hospital at once for immediate operation, which he did.

Physical Examination.—When I saw patient on admission to the hospital she was groaning and writhing in pain, had an anxious expression and seemed very weak. The temperature was 99°, pulse 90, respiration 18. In the left groin there was a globular swelling about two and a half inches in diameter, which was very tense and firm. Palpation of this tumor caused much pain. The abdomen was sensitive but not distended. The bowels had not moved.

Operation.—January 28, 1905, 10 P. M. Nitrous oxide-ether anesthesia. Patient taken directly to operating-room and scrubbed up on table. A perpendicular incision three inches long was made over tumor and extending up on abdomen. The hernial sac was easily exposed and the diagnosis of femoral hernia confirmed. On opening the sac a dark bloody fluid was liberated. A single coil of the intestine which was found in the sac looked livid, almost black, yet the peritoneal surface was glistening. The incision was now extended upward and Poupart's ligament and tissue above divided in order to liberate the constricturing ring at the neck of the sac. After cutting the constricturing bands a normal color gradually returned in the loop of bowel contained in the sac. The intestine was drawn down from the abdominal cavity to make certain that everything was free, but the upper limb of the loop was found adherent. A dissection upward with the division of the abdominal wall liberated a large amount of sero-purulent material, which seemed to come from the peritoneal cavity in this region. A second strangulated hernia of the Littré type was found about half an inch above Poupart's ligament. This hernial protrusion was dissected free from rather firm adhesions, which were most marked just above this point in the gut. The Littré protrusion and the immediate surrounding gut were found to be black and did not regain color after having been dissected free. Another surprising lesion was found just above the Littré hernia. A narrow stricture of the bowel occupied the seat of greatest connective tissue adherence above the hernia. A double reason was furnished for resecting this section of the bowel. About six inches of bowel were therefore removed, care being taken to get at least one inch above apparently healthy bowel. A medium-sized Murphy button was used for reuniting the ends of the bowel. The abdominal wall was closed by suturing first the outer edge of Poupart's ligament to Cooper's ligament and then overlapping the inner end of Poupart's ligament and the aponeurosis of the external oblique muscle.

Patient endured operation well; stomach was immediately washed after operation while patient was still on the table and she was put to bed with a pulse of 100, respiration 16. She did not vomit after operation.

January 29. Temperature varied from 99.4° to 102.8°, pulse 96 to 108, respiration from 16 to 24. Patient had some pain, but felt fairly comfortable and looked well. Patient was fed by rectum, not even water being given by mouth.

January 30. Temperature 100° during entire day; patient slept well and felt well. The elevation of temperature continued until end of third day; pulse and respiration remained good. On the fourth day beef broth was given by mouth. On the seventh day light articles of diet were given. After the fourth day, temperature, respiration and pulse have been practically normal. Patient has felt almost practically well. The button has not yet passed.

This case presents many points of interests:

1. There was a double strangulated hernia. A large loop of bowel in the main sac and a Littré hernia within the abdomen. The loop of intestine in the main sac was not dead and regained its color. The Littré strangulation had caused complete necrosis. Had the operation been completed by returning the main loop of bowel to the abdomen after the color returned the patient would have certainly died from the strangulated Littré hernia.

2. The stricture in the bowel, which was so narrow that a lead pencil could scarcely be passed, was probably caused by a previous Littré hernia from which the patient had recovered spontaneously, and this had probably occurred at the time of her previous attack on January 11.

3. The extension of the incision straight upward through Poupart's ligament, which I regularly practice in strangulated femoral hernia, saved the day in this case. The Littré hernia could not have been discovered otherwise. The method of closure is likewise of importance since it gives very complete closure of the femoral ring.

Dr. Magnus A. Tate read a paper (see p. 393), entitled

Puerperal Convulsions.

DISCUSSION.

Dr. William Gillespie: I wish to compliment Dr. Tate upon the judiciousness displayed in the summing up of this subject. I think none of us could find serious objection to most of the matter embraced in his paper.

I have never used thyroid extract in these cases. I am inclined to doubt the relation between changes in myocardium or endocardium and convulsions. It is a well-known fact that hearts previously diseased are apt to have the trouble relighted by pregnancy. This is one of the reasons why women with damaged hearts should be watched with solicitude during pregnancy. It would therefore require a large amount of very clear evidence to induce me to believe that the myocarditis was produced by the puerperal convulsions.

The question of rapid delivery has been well presented by the essayist, and any criticism I may make is not so much of him as of the general trend of professional thought in this matter. It has by no means been demonstrated that the rapid emptying of the uterus is demanded in puerperal eclampsia, although many of our prominent writers assume it to be a fact. In order to demonstrate that the rapid emptying of the uterus is the one element to be considered, it must first be shown that such an event is usually followed by improvement. This has by no means been done. Edgar seems to assume that, because where convulsions appear after delivery they are less dangerous than those which appear during pregnancy, we may by rapidly effecting delivery convert the one class of cases into the other. This is clearly an assumption unsupported by fact.

The greater the toxemia the earlier will convulsions appear. In those cases which develop eclampsia during pregnancy it is the toxemia alone which is responsible. In other cases it requires the heightening of the nervous susceptibility of the patient by labor added to the toxic state, while in others it requires the toxines plus the nervous irritation of the whole labor to precipitate a convulsion. When we say, therefore, that cases appearing after labor are less severe, it is equivalent to the truism that bad cases are worse than those which are not so bad. But given a case where toxic poisons are present in sufficient amount to produce convulsions, if we add to this the irritation of delivery—by any method whatever—it is preposterous to attempt to make a comparison of this case with one which required the toxemia plus the irritation of labor to produce convulsions.

I was pleased with the moderation shown by Dr. Tate in advocating the operation of vaginal Cæsarean section. I am not satisfied that the operation would be so simple and safe as its originator would have us suppose. This is the same gentleman who was a few years ago advocating an operation through the anterior vaginal vault for uterine displacement. It was very simple and safe and left practically no scar tissue. A number of the operators in our city tried it, but none are doing it now. I had under my care a short time ago a woman who had been thus operated upon in Germany. The scar tissue was excessive and had caused stenosis of the cervix. After several weeks in bed she passed by the bowel large amounts of catgut suture material that had been there two years and eight months. I don't like the source of the operation, and cannot accept without question the favorable statements as to its simplicity and safety.

The cases where great resistance is met with on the part of the cervix are very rare, but if I should meet with a case demanding immediate delivery, which could not be accomplished without a cutting operation, there are several reasons why I should prefer abdominal to vaginal Cæsarean section. Chief of these is the fact that having opened the uterus through the abdomen extraction is easy, while by the vaginal route a major operation is yet to be performed, namely, high forceps or version. As the high forceps operation is dangerous in any but expert hands, and as version is apt in unskillful hands to prove fatal to the child, this attempt to supplement vaginal for abdominal Cæsarean section will, in my judgment, be short lived.

Dr. Charles L. Bonifield: I think this paper should not go without further discussion, because it deals with a very interecting subject and one we do not know all about at the present time.

We have long been taught to regard the kidneys as playing the chief rôle in the production of eclampsia, but post-mortem examinations frequently fail to show marked changes in these organs, and, in fact, they are much more constant in the liver. As I came down in the car I read a very interesting article by Professor Davis on this subject. He claims that the toxemia of pregnancy may be of hepatic, renal, thyroid or intestinal origin. He quotes some experiments made in a London hospital as follows: From two patients suffering from eclampsia the blood serum was removed and injected into animals, and they died with violent symptoms of toxemia. Two other cases were suffering from Bright's disease with scanty elimination of urine. Blood serum was taken from these patients and injected into animals without producing practically any symptoms. It all goes to prove that the kidneys are not the most important factor in the production of eclampsia. We are all cognizant of the fact that the amounts of urea and urine passed are two of the indices by which we can recognize to a certain extent the danger of eclampsia, but we also know that sometimes we have a case of eclampsia occurring in which the urinary symptoms are not prominent.

Accepting the classification of Professor Davis as being correct, you can readily see where the administration of thyroid extract would be of value—in those in which the physiological hypertrophy of the thyroid has failed to occur and the gland is therefore unable to meet the increased demand for its secretion which pregnancy causes.

Intestinal antiseptics and occasional purgation are demanded when intestinal indigestion manifests itself. Calomel, phosphate of soda, and veratrum viride are indicated when the liver is sluggish. Restricted diet and diuretics, not forgetting that water is a powerful and harmless diuretic, are needed when the kidneys are at fault. By bearing these facts in mind and being guided by them at the proper time, eclampsia may often be prevented.

Just a word about rapidly dilating the uterus. I quite agree with Dr. Gillepsie that it has been far from proven that immediate emptying of the uterus relieves the symptoms. Many times where it is best to terminate pregnancy there is no especial hurry about it, and the more nearly the induced labor simulates normal labor at term, the better it is for the patient. The natural bag of water is the best dilator for the cervix. The way to get it to work is to dilate the cervix so that one or two fingers can be introduced through it. Then sweep the fingers around between the membranes and the uterine wall. In this way the membranes are detached for an inch or more and immediately sag down into the cervical canal. The child's head should now be pushed down by a hand on the abdomen into the pelvis and held there for some minutes. After these maneuvres labor will usually come on in from twelve to thirty six hours and be practically normal. The vagina should be carefully sterilized before introducing the fingers, and I deem it wise to wear a rubber glove.

Suppose we want to produce dilatation by more rapid means. I think, with Dr. Tate, that this powerful dilator of Bossi should not be given a place in the stores, much less in our instrument-bags. Personally I do not use a screw on the ordinary Goodel dilator. I prefer to approximate the handles with the hand in order that pressure may be suddenly released if a tear begins. Dr. Wetherill, of Denver, at the last meeting of the American Medical Association, presented a method of dilating the cervix which struck me as being safe and effectual. After dilating as much as he can with the fingers, he introduces the blades of two Sims' specula into the cervix, using one above and the other below, and carefully pull them apart. In using these instruments one always knows how much force he is employing. If I could not succeed with my hand I would try this method.

I have never done a vaginal Cæsarean section. I have done abdominal Cæsarean section, but never vaginal Cæsarean section. It is said by those who have done it that it is comparatively easy. We must remember that after the uterus has been incised the child must still be drawn through the pelvis. This operation is, therefore, not indicated when the child is very large or the pelvis very small.

Dr. William Judkins: There has been nothing, as yet, said on the prophylaxis of puerperal eclampsia—that is, trying to anticipate it. I call to mind a case, several years ago, in which I was associated with my sainted brother, and which we were both positive a serious time would be had when labor set in. She was a primipara, some twenty-five years of age, had always had good health, at least nine months of the year. She was a subject of hay asthma in August, September, and part of October. This year, on account of the limited lung space from the enlarged condition of the abdomen, due to the pregnant state, she was worse than ever (and, by the way, the only relief she had during an attack of asthma, generally at night, or preceding a storm, was either bleeding the median cephalic to near syncope, or syrup hydriodic acid, in full doses, with synapisms, at the wrist, or both).

As pregnancy advanced she became bloated generally; her lower extremities were quite edematous, kidneys acted poorly, and three quarters of a test-tube of urine was *solid albumin*. Her husband was a physician, and before marriage his wife lived in the neighborhood of several practitioners, members of this society, now long since gone to their reward, with the families of whom she was very intimate. At this interesting period of her married life the wives did a whole lot in a "social" way, were quite busy, and would have their husbands call on the expectant father early and often to condole with him over what they were sure, from what they had heard, would be an early death. You can imagine the mental state of this poor fellow. The only medication that was indulged in was by hy. chlor. mite et soda bicarb., with plenty of out-door exercise, especially after night, walking with her husband, and occasionally going out with him in the day-time riding, when making his round of calls.

The expected confinement was set for around Christmas time, all the while the anasarca becoming worse, so much so that when she was confined she weighed 142 (she was on the scales the day before). Ten months before at the time of her marriage, she weighed only 96, a gain of 46 pounds, which was about all "bloat." Labor took place about Thanksgiving day; I say about, it is so long since it occurred and so much has been gone through with since, on my part, that exact dates are hazy. I *do* know, however, that the birth was premature; the babe, a girl, weighed only three and three quarter pounds. On the third day the mother's kidneys commenced to act, and for some time it was very much like a flood; she would pass such large quantities of water — a horse-bucket full in twenty-four hours was the rule—that it ceased to be a surprise. She gradually regained a weight of 115 to 120 pounds, as she convalesced, which was tedious, but finally was her normal self.

The babe, as was reasonable to suppose, had a precarious existence, especially for the first year; the mother's milk was below par, as the kid was, from the start, though the mother was not an Angora). Artificial foods were tried, but "pap," so called, seemed to agree better than anything else, and she would digest enormous quantities of it, so much so that the thought was entertained that she was a "we," and for a moment I must digress to explain what is meant by that title, as I imagine there is no one present who remembers its use, it was so short lived. About that time in the history of the country a President who was occupying the White House, which post he held through anything but a popular vote, sent his annual message to the Senate, in which he frequently used that plural pronoun "we," *i.e.*, "we" recommend that, "we" suggest this, etc. After the perusal was over a very brilliant gentleman from New York, Mr. Conkling, arose to a "question of privilege," and wanted to know "what His Excellency had reference to in saying "we," as he had noticed it was interspersed through the paper time and again; that according to his teaching, there were only three bodies that were entitled to use that expression, and they were corporations, journalists, and people with tapeworms. For his part, he would like to know under which head the President stood. Suffice it to say that as time went on and she gradually increased in weight, a good color, and good health supervened, the "we" was dropped.

The mother subsequently presented the doctor with two more little ones; all—two girls and a boy within six years—are living and healthy. She never had a repetition of the albuminuria. I lay the good result to keeping her liver and kidneys active, as well as looking after her general health, with exercise, baths, good food, etc.

Dr. Tate: I want to thank the gentlemen for the manner in which they have discussed my paper.

The thyroid extract as brought forward by Nicholson is being used very extensively by some at the present time, and therefore I cannot speak authoritively on its action.

Dr. Gillespie doubts the wisdom of emptying the uterus. So do many others. Dr. Taylor, of Philadelphia, read three papers. The first stated that the uterus should be emptied, the second that it should not be emptied, and the third paper stated that it should be emptied. I am much in the same position as Dr. Taylor, but personally I believe an empty uterus is the safest.

Whether the vaginal or abdominal Cæsarean section is selected is mainly a matter of choice for the operator to personally decide. I believe that there is a great field for vaginal Cæsarean section in selected cases, and, furthermore, I also believe at the present time that the mortality will be less than in the abdominal operation. Dührssen is a man of large experience and excellent opportunities. He, like all the rest, has made mistakes, but this operation which he has brought forth is at least worthy of serious consideration even by those generally opposed to operations.

Regarding the use of Sims' speculum as a dilator, Dr. Horace G. Wetherill first used this method.

I agree with Drs. Judkins and Johnson, and believe very strongly in the preventive treatment.

THE CINCINNATI SOCIETY FOR MEDICAL RESEARCH.

OFFICIAL REPORT.

Meeting of March 16, 1905.

THE PRESIDENT, SAMUEL IGLAUER, M. D., IN THE CHAIR.

J. HENRY SCHROEDER, M. D., SECRETARY.

Dr. James W. Rowe presented a paper, and also mounted sections illustrating the endarteritis, on

The Findings in a Case of Aortic Anrurism.

G. P., male, aged fifty-four, entered the hospital on January 7, 1904, and died December 29 of the same year. He was therefore in the house nearly a year.

On entering he gave the following history: Father died of pneumonia, mother of paralysis, one sister living and well.

He has had poor health for the last twenty-five years. Ten years ago the left side of his face was paralyzed, one year later had a repetition of the attack. Both attacks were transient, but a slight paralysis of the upper lip remains. He has had erysipelas on his legs, fractured nose and kidney disease. Fifteen years ago was drinking hard, but during last ten years has been abstemious. Uses tobacco, denies syphilis, admits gonorrhea. Five years ago began having pains in back, severe enough at times to keep him awake. Fairly well nourished. Temperature 98.4°, pulse 100, respiration 24. Upper lip projects and motion in it is limited. Tongue deviates slightly. In the chest there is anteriorly an abnormal area of dullness extending from the heart to the upper border of the sternum and from an inch to the right to an inch and a-half to the left of the sternum. Posteriorly there is an area of flatness from the middle line to three inches to the left and from the upper border of the scapula to three inches below. Heart impulse in fourth and fifth interspaces on the left and in second and third on the right of sternum. Epigastrium also pulsates. Character of pulsation is heaving, forcible and diffuse, extending toward left axilla. Heart dullness extends to the left nipple and downward to the sixth rib. Heart sounds clear. A murmur is heard at the apex, beginning after the first sound and ending with the second. Pulse full, strong and regular, same of both sides. Tongue slightly coated, appetite poor, bowels move twice a day. Liver dullness extends two inches below costal margin in front. Urine contains slight amount of albumin and a few granular casts.

The case was treated with K. I. and codeia for the pain. On March 1 a fluoroscopic examination was made and a dark pulsating shadow was seen under the left clavicle. The pulsation is plainly felt. Pain and headache continue. A photograph was subsequently taken of the chest by Dr. Lange. All through the summer and fall the patient acted as orderly periodically and at times kept his bed. The pain continued and the area of dullness increased in size. Tracheal tugging was felt plainly.

On December 28 the patient vomited a pint of blood. Pulse is small and rapid. Morphine given hypodermically.

On December 29 the patient died suddenly after speaking to his friends.

Clinical diagnosis: Thoracic aneurism, mitral insufficiency, hypertrophy of heart, chronic interstitial nephritis, facial paralysis, general arteriosclerosis.

At the autopsy the following conditions were found: Mitral insufficiency, dilatation of heart, thoracic aneurism, general arteriosclerosis, chronic interstitial nephritis. An aneurism of the descending aorta extended from the origin of the left subclavian artery almost to the celiac axis. A large part of it was filled with antemortem clot, the remainder with postmortem clot. An opening into the esophagus was found and the stomach was filled to its capacity with new blood clot. Four dorsal vertebræ were more or less eroded. A long branching antemortem clot was found in the pulmonary artery. Microscopical examination of the large arteries reveals marked proliferating endarteritis. The kidney shows very moderate interstitial nephritis, with marked thickening of vessel walls. In the spleen the arterial sclerosis is extreme. The small vessels of the Malphigian bodies are almost obliterated.

Anomalies of the Hair.

DRS. HEIDINGSFELD and MARKLEY demonstrated from lantern slides a case of *trichorrhexis nodosa*, taken from the hairs of the mustache of a young physician, twenty-five years of age. The condition was first noted in February, 1904, and the nodose swellings were first mistaken by the patient for nits. Two years prior this lip was the seat of a severe inflammatory infection, while patient was an interne at the Cincinnati Hospital, to which the demonstrators attributed a possible predisposing influence to the affection. The nodes were abundantly present, and for the most part multiple on each affected hair. The essayists found trichorrhexis invariably present in hair from scalp and beards when allowed to obtain its full development, and ascribed physiologic properties to these forms by assuming that it is probably nature's method of correcting an otherwise troublesome and cumbersome overgrowth. The examination of the natural ends of nearly all long uncut hair reveals a camel's-hair brush splitting, as if the extremity had at one time or another been the seat of nodose swelling. It is only when the nodes occur excessively and for the most part in short, well-trimmed hair that the process is pathologic. In those cases we generally find multiple nodes on individual hair, separated by uniform intervals of normal hair, as if the causative influence, whatever its nature, trophic or otherwise, is only periodically active. In this respect the condition resembles a closely allied affection of hair, called trichorrhexis multiformis, a specimen of which was also demonstrated, which is characterized by alternate enlargements and constriction of the hair shaft, each corresponding approximately to about twelve hours of developmental growth. A purely mechanical cause could not be attributed, because persistent manipulation of hair by repeated bending and unbending of hair at a given point and the grinding of hair in a mortar with a pestle, after the method of Dr. Keyser, failed to induce the condition, or produce changes which approximate in physical appearance the natural changes. The bacterial investigations also failed to establish a parasitic causation of the disease, as maintained by Hodara, Spiegler and others, and negated rather than confirmed their previous observations. The firm, resistant character of hair, with its natural absence of heat and moisture, which are essential to bacterial development, account naturally for the fact that hair, when once removed from the natural influences of the body, remains indefinitely unchanged, both in color and appearance, even after the lapse of thousands of years, as in the case of the exhumed Egyptian mummies, and is *à priori* evidence that the affection is not parasitic.

The demonstrators believed that graying of the hair, which is thus far an entirely unknown process, cannot be attributed to external influences, such as infiltration of air, as maintained by some authors, but rather to some circulatory change in the hair permeating to its very tip. Some of the gross changes in graying were likewise demonstrated. The improbability of a parasitic affection of the hair was further emphasized by the analogy of hair with nail substance; it is commonly believed that when ring-worm secondarily involves the nail the fungus invades the nail substance directly. The authors believe this to be a fallacy, and are inclined from their investigations to the view that the fungus first invades the succulent cells of the nail-forming matrix, inducing primarily an inflammation of the nail-forming elements, with secondary changes in the nail. The white spots commonly observed in the nails are due to similar changes, resulting in a parakeratosis of a definite area of nail substance, and not to an infiltration of air.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, APRIL 8, 1905.

THE AFTER-TREATMENT OF ABDOMINAL SECTIONS WITH ESERINE SALICYLATE.

An Eastern writer[1] has recently again advocated the use of the salicylate of eserine as a preventative of post-operative intestinal paresis, his third contribution on the subject.

The mode of action of eserine is briefly given as follows: The exposure of the visceral peritoneum to the lower temperature, to the drying of evaporation, and above all to manipulation, immediately establishes an irritation of the sympathetic nerve terminations in the intestine, which, generating a centripetal nerve impulse immediately, in turn evokes a marked reflex inhibition of all muscular movement, which reflex inhibition is conveyed to the bowel over the fibres of the splanchnics. But in Auerbach's and Meissner's plexuses the intestine has been shown to possess a nervous mechanism which is so powerful as to render it absolutely autonomous when freed absolutely from all central nervous connection. Therefore, the moment splanchnic inhibition is instituted the ganglia of Auerhach's and Meissner's plexuses institute a nugatory muscular excitation, and in the overwhelming majority of cases the force in these intrinsic plexuses is so much more than equal to the task of overcoming the splanchnic inhibition that, after a temporary battle, the normal peristalsis is completely restored, which is materially aided by the fact that the splanchnic inhibition apparently ceases promptly upon the restoration of the visceral peritoneum and intestine to their normal conditions as to temperature and manipulatory irritation. But it is in those cases in which either the splanchnic inhibition is abnormally persistent or the intrinsic resistance is abnormally weak that a serious degree of paresis results, and in which eserine is able so to equalize the forces as to prevent serious symptoms.

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[1] Craig (N. Y. Med. Journal and Philadelphia Med. Journal, March 18, 1905).

Eserine belongs to the same group of spinal depressants as pilocarpine, and one of its most marked effects, usually accomplished within fifteen minutes of its administration, is the great diminution of the activity of the spinal reflexes. It thus lessens the activity of the reflex centres in which our splanchnic inhibition is generated and thus relieves the intrinsic plexuses. But this is only one of its actions. Eserine has long been known by oculists to possess a selective action upon the ciliary muscle, causing a marked narrowing of the pupil, and it possesses an equal if not greater selective activity upon the intestinal musculature. Whether the action is direct upon the muscle fibre or upon the delicate nerve termination within, it is not known. Eserine, therefore, both relieves the intrinsic plexuses of their task and endows the muscles with the capacity for performing far more work than is demanded of them. The author advocates a dosage strictly adjusted to the demands of the individual patient. With the patient whose bowel activity has always been normal, one who reacts to small doses of cathartics, one-sixtieth of a grain is usually a sufficient dose. If such a small dose is found insufficient it should be repeated. If, on the other hand, the patient gives a history of chronic constipation, the full therapeutic dose of one-thirtieth of a grain should be used; or, if the constipation has been unusually severe, even one-twentieth of a grain may be given. Where this information regarding the previous condition of the bowels is not obtainable, one-fortieth of a grain should be used. Eserine should never be used except in conjunction with atropine, because atropine systematically antagonizes all the undesirable actions of eserine, and *vice versa*, while they unite in stimulating intestinal peristalsis.

The eserine should be administered subcutaneously. The atropine should always be given before the anesthetic: First, because its action is slower than that of eserine; and, secondly, when so used it gives great aid to the anesthetist in doing away with pharyngeal secretion. One-hundredth of a grain should be given by mouth one hour before anesthesia, or one hundred and fiftieth of a grain subcutaneously immediately before operation.

The chosen dose of eserine is placed in a hypodermic syringe while the patient is being prepared for the abdominal operation, and is kept warm and ready for use. As soon as practicable after the opening of the peritoneal cavity, the entire field of operation is explored, and if no condition is found which offers the slightest possibility of jeopardizing the integrity of the intestinal tunics below the peritoneum, the eserine is ordered administered at once.

The routine administration of eserine before operation has been begun is emphatically condemned, since its use is undesirable in those operations where absolute intestinal rest is imperatively demanded—for instance, with strong adhesions, in intestinal resections or anastomoses. Again, it should not be used when septic material has almost certainly been left in the abdominal cavity. Whether or not eserine should be used after or during a case in which peritoneal infection or inflammation has been a factor, must be left to the judgment of the surgeon. Inasmuch as eserine salicylate seems to be a preventative remedy which is absolutely harmless, we are not only justified in using it in every suitable case, but it is a question if it is justifiable to omit its use in any case.

The author has not had a single detrimental result after the administration of eserine. In one case there was a transient sensation of marked weakness and muscular depression, but this occurred in a case in which no atropine was given. It certainly seems, then, that the routine administration of eserine is justified in all cases except in those just stated, with the object of rendering the recovery easier to all and occasionally saving a life by preventing post-operative paresis.

The concomitant treatment after the administration of the eserine differs in no way from that ordinarily followed, except as to the omission of cathartics. Should the least degree of intestinal and abdominal distention occur an enema will usually be sufficient. If the patient seems in every way well and there is no abdominal distention, there need be no haste about getting a bowel movement upon any particular day. The eserine will usually accomplish an evacuation of all bowel contents within eight to forty-eight hours. The author usually allows a full house diet after the fourth day.

The most striking feature of all cases in which eserine has been employed is the very unusual comfort and well-being of the patient. The author is emphatic in his recommendation of eserine salicylate rather than any other preparation of physostigmine, and believes that no stock operating-room solution of the salicylate should be employed, since it deteriorates rapidly. H. J. W.

A NEW PANAMA COMMISSION.

All physicians are by this time well acquainted with the severe arraignment given the Panama Canal Commission by Dr. C. A. L. Reed, and especially the compliments paid by the latter to one member in particular of this commission. The wide publicity given this report has stirred up official Washington to no small degree, as illustrated by the letter of the President to Secretary of War Taft. He says: "Dr. Reed has not displayed in this report the qualities of temperament or the power of accurate judicial observation needed to make a report valuable to the Government. When he assumed to make a report on sanitary conditions at your request as Secretary of War he was under obligation to speak with care and justice on so important a subject and to observe the proprieties as to its publication." Yet in the face of this the resignation of the Panama Commission as a body was almost immediately demanded, and the authorities at Washington are busy formulating the personnel of a new commission. It would seem that the President took the report very much to heart, and corroborated the statements of Dr. Reed by his own inquiries, for he is the last man to demand this wholesale resignation unless he were sure of his facts. The gist of the criticism of Dr. Reed is, then, that he gave out his report for publication, and he no doubt did this for the benefit of the medical profession and the workers of the canal zone, for no one knew better than himself that his action would be subject to disapproval at headquarters. No government or corporation desires publicity in its affairs, yet in defense of Dr. Reed it must be said that his report was unofficial and he was in no way bound either by the Secretary of War or by the "proprieties" to maintain secrecy. His "impropriety" has already borne fruit in the forced resignation of the commission, and he has awakened the public mind to the danger of the failure of the most essential factor in the problem of the canal building, that of sanitation, and in so doing he deserves the thanks of all public-spirited citizens. Of great importance, too, is the fact that the new commission, keeping in mind the rock on which its predecessor struck and sank, will do everything in their power to further the efforts of Colonel Gorgas and his able associates.

EDITORIAL NOTES.

The *Journal of Experimental Medicine* will in the future be edited under the auspices of the Rockefeller Institute for Medical Research, with Drs. Simon Flexner and E. L. Opie as editors-in-chief.

At the Academy of Medicine of Cincinnati, Monday evening, April 10, Dr. C. A. L. Reed will read a paper entitled "Surgical Ulcer of the Stomach."

The eighth annual meeting of the American Gastro-Enterological Association will be held at the Academy of Medicine, 19 West Forty-third Street, New York, Monday and Tuesday, April 24 and 25, 1905.

The Board of Medical Examiners for the State of Texas (regular) will hold its next meeting in Austin, May 2, 3, 4 and 5, 1905, for the examination of applicants and transaction of other business. For further information address the Secretary, H. M. Smith, Austin, Texas.

It is stated that Dr. William T. Councilman, Professor of Pathology at Harvard Medical School, has been elected Professor of Medicine at Johns Hopkins, to succeed Dr. William Osler. Dr. Councilman, it will be remembered, was formerly associated with Dr. Osler at Hopkins, but left the latter institution in 1892 to accept his present position.

A movement is on foot for the erection of a clubhouse and library building by the Academy of Medicine, and at a meeting recently Dr. Horace J. Whitacre, Dr. A. B. Thrasher and Dr. John A. Thompson were appointed a committee to select a site and furnish estimates as to the probable cost.

The Fifteenth International Medical Congress will be held at Lisbon in April, 1906. At a meeting of the National American Committee, at St. Louis last September, the following officers were appointed to represent the Congress: John H. Musser. Chairman; Ranson Guiteras, Secretary; Executive Committee: Frank Billings, M.D., William Osler, M.D., Frederick Shattuck, M.D., Abram Jacobi, M.D., and J. H. Musser, M.D., Chairman. Any communications regarding the presentation of papers at this Congress can be sent to Miguel Bombarda, Secretary at Lisbon; or to Dr. Ramon Guiteras, Secretary for this country.

Report of the Bureau of Infectious and Contagious Diseases for the week ending March 31, 1905:

Disease.	Cases.	Deaths.
Measles	4	0
Diphtheria	9	0
Scarlet Fever	6	1
Typhoid Fever	15	3
Phthisis Pulmonalis	12	20
Pertussis	17	2
Varicella	5	0
Smallpox	3	0
Cerebro-spinal Meningitis	0	1

How to Obtain a Certificate to Practice in Kentucky. — The State Board of Health of Kentucky issues the following circular:

"The regular examinations will be held at the School Board Building, corner Walnut and Center Streets, Louisville, beginning on the fourth Tuesday in April and October in each year. No special examinations will be held under any circumstances, and the law makes no provision for temporary certificates.

"An examination will be required of all applicants, except those whose names are on file in this office as bona fide matriculants in recognized schools located in this State upon February 1, 1904, who shall have graduated from one of such schools prior to September 1, 1907, and who make application to this board prior to January 1, 1908.

"The subjects for such examination will be anatomy, including histology and embryology, physiology, pathology, chemistry, surgery, obstetrics, gynecology, bacteriology, hygiene, ophthalmology, otology, medical jurisprudence, mental and nervous diseases, etiology and physical diagnosis. The law requires a general average of 70, and a grade of not less than 60 in any branch.

"The examination will begin at 9 A.M. on the first day, and at 8 A.M. on the two succeeding days. All applicants must be present from the beginning of the first examination and punctually for all others. The examination will be secret and each applicant will be assigned a number by which alone he or she will be known until the papers have been graded and the success or failure fully determined. The board will furnish paper for the examination, but applicants will be expected to provide themselves with fountain pens, or with pen and ink.

"Only bona fide residents of this State and graduates of recognized colleges located within the United States will be admitted to the examination. Applications upon forms prescribed by the board, attested by some officer authorized to administer oaths and endorsed by the medical referee of the county in which the applicant resides, accompanied by the fee of ten dollars, must be on file in this office at least ten days prior to the date fixed for the examination. Blanks will be furnished by the referee and the diploma must be exhibited to him.

"The application must be accompanied by an unmounted photograph of the applicant, on the reverse side of which must be his or her full signature, duly attested, under the seal of some official of this State authorized to administer oaths.

"Applicants are warned not to 'practice or to treat or attempt to treat any sick or afflicted person by any system or method whatsoever' until a certificate has been received and recorded in the office of the county clerk in which he or she resides.

"Itinerant and advertising doctors are not eligible for examination, and are not permitted to practice in this State, and special attention is called to the affidavit clause upon these subjects in the application blank.

"All applications should be sent, and correspondence directed, to the State Board of Health, Bowling Green, Ky.

F. W. LANGDON, M.D. Nervous and Mental Diseases. D. I. WOLFSTEIN, M.D.

The Therapeutic Indications in Epilepsy.

Paris (*Archives de Neurologie*) says the epileptic mother should not nurse her child, for if there is the least suspicion of epileptic taint, when such a mother nurses her child (and this is the rule, not the exception), not only is the child exposed to infantile convulsions, to epilepsie *précoce*, but the mother may easily suffer an aggravation of her own state. In any case we should aim to remove all causes which tend to produce states of abnormal excitement of the child's nervous system.

Paris regards infantile convulsions as manifestations of true epilepsy in the majority of cases, as will be shown by investigation of the antecedents (epileptic or alcoholic history), a conclusion with which reviewer cannot agree.

The institution of pre-natal treatment (during intra-uterine life) will serve to prevent these convulsions, and assist the child to support the numerous and varied excitements which its neuropathic taint will surely bring about later. After weaning, a careful regimen must still be maintained, eggs and milk forming the diet staples, and gastro-intestinal excitations must be guarded against.

Similar care should be exercised with the skin, kidneys, and other emunctories; also the exhibition of vermifuges if required. The first manifestations of irritability, ill-humor, etc., Paris regards as danger signals.

Intellectual effort, though permissible, requires careful regulation, as does also physical exercise. The special irritability peculiar to the tainted nervous system of the congenitally predisposed requires the removal of all conditions capable of causing "nervous shock." (The fulfillment of the Paris programme will necessitate a degree of vigilance and interest not available, unfortunately, for the majority of cases.)

Puberty accentuates the necessity for

caution. Sexual irritability will require attention—cold baths, simple diet; if required, a mild course of potassium bromide. Erethism in both cases is best controlled by camphor; often a mild hypnotic is in place. Warm baths a little prolonged are of service; as adolescence approaches Paris advises that the co-operation of the epileptic (as is now done with the tubercular) be obtained, to the end that he may have an intelligent understanding of the consequences made possible by deviation from a vigorous hygienic life, both in the narrow sense, as well as for society and his possible descendants in the broader.

Paris thinks that the attention of the sufferer should be drawn to the habitual character of the epileptic, and in thus directing his attention to the instability of the psychic manifestations, to the accessions which he so often deplores, he may be taught how to avoid many sources of excitation.

In thus opening the eyes of these patients to their true condition, the force of the congenital taint (*tare epileptique*), as well as the effect of causes acting later, may be minimized. The alimentary regime in adult life, though naturally less restricted than during juvenile life, calls for similar control, and should be the more guarded, the more the indications of excitement present.

For the female a similar procedure will be required, but Paris emphasizes the importance of regulation of the menstrual function, inasmuch as there seems to be an especial relation between the menses and the occurrence of attacks. Both sedation and elimination are here called for. The sexual relations of the predisposed should be regulated both from the standpoint of minimum and maximum natural indulgence, which control, of course, includes the proscription of all unnatural sexual life. The usual methods are mentioned.

Paris has discussed the prophylactic side in this extended way, because, as he says, so much attention has been paid to the treatment of the attack, and so little to the intervals, or the disease as a whole.

Curative Treatment.—Paris establishes four principal indications:

1. Diminution of the meningo-encephalic impressionability.
2. Moderation of the functional activity of the thyroid and genital apparatus.
3. Regular elimination of their secretions.
4. Removal of all complementary causes of excitement (meningo-encephalic), as the development of toxines.

In infancy the curative treatment has less extended indications. Modification of thyroid activity would involve possible danger to psychic and physical development. On the other hand, the causes of excitement are less in evidence, especially if a proper régime has been adopted.

To diminish cortical excitation the author still relies chiefly on the bromides, but often gives in connection with it, trional in two doses, half at 8.30 to 9 P.M., half next morning. He speaks highly of trional, and in cases of bromide saturation, recommends it as a temporary substitute.

Now for the second condition, moderation of functional thyroid, and genital activity. Paris thinks that excess, or lowering of thyroidal function, has analogous accompaniment in the genital sphere. Camphor, lupulin, warm baths (slightly prolonged), diuretics and diaphoretics are mentioned. Paris prefers camphor in conjunction with a hypnotic, in females, before the menstrual epoch.

The epileptic is often an "arthritique," or his various conditions strongly resemble those of the arthritic type. In searching for a remedy which can prevent the accumulation of glandular secretions peculiarly noxious when acting on the arthritic type of epileptic, Paris has fixed his choice on benzoate of lithia. This brings about, in Paris' opinion, a sort of lavage of the blood, preventing the accumulation of thyroid or other glandular secretions therein.

Regulation of all the functions concerned in excretion is, of course, imperative. Intestinal antiseptics have a place. Camphor is recommended as combining the latter quality with its well known anaphrodisiac action.

Serum therapy does not meet with the author's unqualified approval.

D. I. W.

FOR anal ulcer Dr. Hilton has had good results from the local application of a solution of two grains mercuric chloride, ten minims of nitric acid and one ounce of water.—*Med. Summary.*

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A STUDY OF TUBERCULOSIS FROM A SURGICAL STANDPOINT.*

BY J. C. OLIVER, M.D.,
CINCINNATI.

The general subject of tuberculosis has been so thoroughly and completely presented that I shall not attempt to consider the questions of pathology or diagnosis. It seems probable that a paper devoted to a discussion of the ordinary points which are so frequently presented to you in your daily practice might not be without profit.

I wish, at the very outset, to protest against the idea that there is a distinct class of cases of tuberculosis in which surgical measures will, alone and unaided, bring about a cure. If the operative treatment of cases of tuberculosis has demonstrated any one thing more clearly than aught else, it is that active surgical measures are only of value when used in conjunction with proper hygienic and general treatment. One may safely go further than this and assert that, on the whole, active surgical intervention in a majority of these cases has done vastly more harm than good; this is particularly true of the surgery which fails to recognize anything as being surgical unless it has an operation as its basis. It may be laid down as a basis for all the surgery of tuberculosis that intervention should only be practiced when the surgeon is driven by necessity to operate, because a study of the tuberculous processes shows that nature makes a very determined effort to isolate and encapsulate the primary foci of this disease. A connective tissue capsule, resistant to the action of the bacilli, is usually found enclosing the primary point of deposit of the tubercle bacilli. This capsule is but poorly supplied with blood-vessels, and is of a dense, resisting structure. These characteristics cause it to act as a barrier to the dissemination of bacilli. It is by no means rare to find that an entire tuberculous focus may become obsolete and calcified within this protecting envelope. I lay special stress upon this physiological resistance, because surgical measures are apt to break through these barriers and may aid in the disseminatio of the disease. A study of the cases of joint tuberculosis in which active measures have been resorted to (excisions, erasions, etc.) proves that general tuberculous infection occurs much more frequently than it does in cases treated by less active methods. This fact has led surgeons to be much slower in advising operation than was formerly the custom. The ideal treatment from a theoretic standpoint would be to completely remove the tuberculous area at the time it is small and distinctly localized. Practically, these cases are not diagnosed until after a complete removal of the focus is problematical.

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* Read before the Highland County (O.) Medical Society, January 4, 1905.

It remains for us to consider those methods of treatment which have for their purpose the giving of assistance to nature in her efforts to overcome the disease by isolation and starvation. The chief of these agencies is "rest"—physiological rest. As an illustration of the far-seeing wisdom of the author, and also of the fact that the science of medicine frequently travels in circles, permit me to quote from Hilton on "Rest and Pain" the advice given by that gifted surgeon as early as 1860: "I would solicit your attention to one or two considerations for the purpose of showing that the attainment of physiological rest ought to be the guiding principle to direct us in the right course." Physiological rest in this class of cases may be secured by either actual rest in bed, or by means of mechanical appliances which so fix the parts as to hold the function of the parts in abeyance.

Another point of prime importance comes up in this connection: Shall pateients suffering from these conditions be treated at home or in hospitals? The answer to this question depends largely upon the home surroundings. Patients living in the country or in the better class of dwellings in the smaller towns will probably do better at home where they can have free and prolonged exposure to the fresh air and sunlight than they would in the ordinary hospitals where these valuable agencies in treatment are much more difficult to obtain. Patients from among the very poor in the larger cities are much more likely to be deprived of both fresh air and sunshine—they also fail to receive proper, nourishing food—hence a hospital residence may be of value to them, but one should be chosen because of its open, exposed situation.

In the management of these cases in their early stages proper food should be added to the rest, fresh air and sunshine referred to above. The food should not only be nourishing, but it must be abundant in quantity. What, in another patient, might be regarded as over-feeding is not objectionable in this class of patients.

If, in spite of the above-mentioned measures, liquefaction of the tuberculous material takes place and an "abscess" forms, you are brought face to face with a condition which calls for much judgment and also a firm determination to resist temptation. The natural instinct of every physician is to regard this accumulation of fluid in much the same way that he does an abscess, and treat it by early and free incision. Much experience with this class of cases has led most surgeons to the conclusion that this method of treatment is not adapted to the best interests of the patients. Dr. V. P. Gibney, whose experience in cases of this sort has been as great as that of any individual, says "it may be stated as a general rule that abscesses are not interfered with unless they interfere with the protective treatment of the bone or joint whence they come." Many of these collections of fluid disappear spontaneously without incision, but when they approach the surface and are in imminent danger of rupture something must be done to avert that calamity. The danger of rupture is the same that follows incision—*i.e.*, infection by other bacteria than the tubercle bacillus. When mixed infection occurs the patient soon shows the general symptoms produced by such an infection, and, as a rule, the course is rapidly downward by reason of sepsis and exhaustion. Even the most rigid asepsis and antisepsis fail to prevent mixed infection in an open sinus—hence the necessity of confining these accumulations to the subcutaneous areas. Aspiration, repeated as often as is necessary, has had many warm advocates, and the results are excellent in a large proportion of the cases. If the aspiration is carefully and properly performed there is but slight danger of carrying infection into the interior parts.

Should aspiration fail to bring about a cure of the trouble the fluid may be evacuated through a small incision made with the most rigid asepsis. After the fluid is evacuated the incision must be closed by immediate suture. These incisions heal as readily as do those made under ordinary surgical conditions. If necessary these incisions may be repeated. Cultures made from the fluid evacuated under these conditions will almost always prove to be negative. When these collections of fluid are evacuated, either by aspiration or incision, no chemicals should be introduced into the cavity.

Many of these cases come to us after a sinus has developed and mixed infection has occurred. What shall we do under such conditions? My own experience with various methods of treatment leads me to believe that the best treatment is that which does the least in the way of active intervention, and I now direct my best energies to an endeavor to improve nutrition, give physiologic rest to the part and maintain the parts in the most aseptic condition possible. Irrigations and fluids of all sorts should be excluded from the parts, and the sinus should be let alone unless drainage becomes interfered with. Dry dressings should be used and the parts should be kept as clean and sweet as possible.

From the foregoing remarks you will all be led to the conclusion that very little active surgery is indicated in cases of bone or joint tuberculosis, and that is exactly the impression I desire to convey. Until our methods of diagnosis become so exact as to enable us to recognize the primary tuberculous focus at such time as it is susceptible of complete and early removal, better results will be obtained by relying upon nature's efforts and assisting her in every possible way. Excisions and erasions are very properly much less frequently resorted to than was formerly the rule.

Before leaving this branch of our subject I want to call attention to that class of cases in which bone or joint tuberculosis is associated with the pulmonary variety. Such a combination calls for amputation of the diseased limb. I have often seen marked improvement occur in the pulmonary condition after a tuberculous extremity has been amputated.

Lest my meaning may be partially misinterpreted let me say that we have not yet reached the point when operative measures may be entirely abandoned. The knee joint presents better results after excision than does any other, because it is readily exposed and complete extirpation of the tuberculous tissues can more readily be made. An excision of this joint, associated with complete removal of all infected tissue, is followed by better results than when any other joint is excised. This simply emphasizes the fact that the proportion of cures is influenced by the completeness of the removal of infected tissues.

Let us now direct our attention to other conditions of tuberculosis which may be classed as "surgical."

A few years ago an attempt was made to include pulmonary tuberculosis in the category of "surgical" cases. A few reports of brilliant rèsults led to a thorough investigation of the subject. Dr. H. J. Whitacre, from an investigation of nearly one thousand cases of lung tuberculosis, supplemented by careful examination of a large amount of pathologic material, arrives at the following conclusions:

"1. The excision of the pulmonary lesion is, in a vast majority of cases, both impossible and irrational.

"2. The incision and drainage of tuberculous cavities in the lung does not seem to be a justifiable operation."

The rank and file of the profession has acquiesced in these conclusions, hence the surgery of pulmonary tuberculosis languishes.

TUBERCULAR GLANDS OF THE NECK.

There can be but little doubt that tubercular infection of the cervical glands is rarely a primary condition. The original site of infection may be overlooked entirely, or it may be found in the throat, nose, ear or scalp; in fact, it may originate in any part from which the lymphatic drainage is into the cervical glands. One is inclined to attribute a very prominent rôle to the teeth and tonsils because of the fact that the submaxillary glands are the ones which usually give the first indication of involvement. Sometimes the glands upon one side of the neck are alone affected, but again enlargement may occur upon both sides simultaneously, or nearly so.

The natural course of this affection varies. Some patients exhibit a very slowly-increasing development and enlargement, others proceed rapidly to liquefaction and rupture, while others show no tendency to progress, but rather to retrograde and disappear.

General and local treatment is indicated in this affection. The purpose of general treatment should be the same as for the same pathological process elsewhere, *i.e.*, the building up of the resisting powers of nature.

The local use of remedies has not been very successful in combating the onward march of this disease. In some cases I have thought that benefit was obtained through the use of the iodide of lead ointment, but I am by no means sure that this medicament was the real cause of the improvement. Interstitial injections of various drugs have been tried, but the consensus of opinion is that they are not of great value.

After a thorough trial of internal and local treatment, combined with proper hygienic and dietetic management, operation should be resorted to, provided these other measures have proved ineffective. Whenever operation is undertaken it should be as thorough as possible, and every infected gland should be removed, when such a procedure is possible. If both sides of the neck are involved it will usually be the part of wisdom to make the operation in two sittings; this is particularly desirable in cases in which much time is required for the extirpation of the glands on each side. It is a good plan, when practicable, to remove the glandular masses with the intervening tissues in one piece. Every effort should be made to improve the patient's general condition after operation, because success is most probable in those cases which receive the best systemic treatment. Recurrences—*i.e*, enlargement of glands overlooked at the time of operation—are not uncommon. Pulmonary involvement subsequent to tuberculosis of the cervical glands is the exception, not the rule. Some writers even suggest that the glandular infection seems to confer an immunity against later tuberculosis of the lungs.

TUBERCULOUS PLEURISY.

This disease, associated with either a serous or purulent effusion, is often tubercular in its nature. It is sometimes produced by the rupture of a tuberculous mass in the lung into the pleural sac, giving rise to a pyo-pneumo-thorax, but it more frequently occurs without our being able to trace it directly to a primary condition in the lung. The tubercular nature of the trouble is only recognized by finding the tubercle bacilli in the fluid.

When the fluid is serous, aspiration will most commonly be all that is necessary to bring about a cure, but when the material is purulent, incision with removal of a portion of one or more ribs is required. A considerable proportion of patients afflicted with pleural tuberculosis develop pulmonary lesions subsequently.

Another serous membrane, the peritoneum, is often the seat of tuberculosis. This structure is, in the vast majority of cases, infected secondarily. The primary lesions are most often found in the Fallopian tubes, the appendix, or in some part of the intestinal tract. The disease may occur with an effusion, or in the dry form.

The diagnosis of this condition is not always easy; in fact, its presence is often only discovered when the abdomen is opened. In many of the cases the symptoms closely resemble those of recurrent appendicitis, and the true condition is often discovered only when an operation is made for removal of the appendix. A regular afternoon rise of temperature is strong presumptive evidence of the existence of a tuberculous process, and when this condition is suspected a careful record of the temperature should be kept.

Authorities differ as to the proper course to pursue after a diagnosis has been made. The trend of modern opinion is to the belief that medical treatment, combined with rest, fresh air and proper food, should be given a fair trial in the treatment of this disease. Statistics seem to prove that about 50 per cent. of these cases will get well under this variety of treatment. There seems to be a unanimity of opinion that medical treatment is of the greatest value in the early period of the disease, hence it should be given a fair trial before resort is had to a more radical method. This statement derives additional value from the fact that operation is not very successful during the early period. My personal observation leads me to believe that indiscriminate operation is not wise surgery, because the percentage of recoveries is less than when previous medical treatment is employed. The great source of error in cases treated medically is the possibility of incorrect diagnoses. Laparotomy will almost certainly lead to a positive knowledge of the condition.

There is, even at the present time, much doubt expressed by different writers as to the best method of procedure to be followed in cases of tuberculous peritonitis. The surgical treatment of this condition owes its origin to the classical case on which Spencer Wells operated in 1862. Operation was undertaken in the belief that another condition was present. When the abdomen was opened tuberculosis of the peritoneum was found and the abdomen was closed immediately. Very much to the surprise of the operator, the patient recovered and remained well. Ochsner (Transactions of the American Surgical Association, 1902) comes to the following conclusions:

"1. Patients suffering from tuberculous peritonitis should first be subject to careful medical treatment.

"2. This treatment should consist in the use of intestinal antiseptics and antituberculous remedies and rest in bed. Sterilized food and improved hygienic conditions generally should be employed.

"3. So long as the patient's condition improves reasonably this treatment should be continued.

"4. In case the patient's condition does not improve, abdominal section is indicated.

"5. If the disease is confined to a part which can be safely removed without injuring any portion of the tuberculous peritoneum, this should be done, provided the surface can be covered with healthy peritoneum.

"6. If the removal of any infected portion necessitates the severing of the tuberculous peritoneum or leaving a portion of the peritoneal surface denuded, the diseased tissue must not be disturbed.

"7. In case there is fluid in the peritoneal cavity it is doubtful whether it is best to remove any tuberculous tissue, even though it be circumscribed.

"8. Enormous quantities of the tuberculous material can be absorbed from the peritoneal cavity after simple laparotomy.

"9. It is best to avoid all manipulation of intra-abdominal organs during the operation in case there is a diffuse tuberculous infection, and to confine the operation to simply opening the peritoneal cavity, permitting the ascitic fluid to drain out, admitting air to the peritoneal cavity, and closing the abdominal wound.

"10. Peritoneal adhesions should never be disturbed in patients suffering from tuberculous peritonitis with ascites, for fear of causing intestinal fistulæ.

"11. During the time of recovery from surgical operation and for a considerable period of time after this the patient should be treated medically.

"12. The hygienic conditions of the patient must be permanently improved, and he must not be permitted to expose himself to the conditions which primarily caused the tuberculous infection.

"13. Permanency of cure is much more likely in patients who are not predisposed to pulmonary tuberculosis.

"14. Chronic cases with fluid, notably if encapsulated, not benefited by medical and hygienic treatment, are especially amenable to surgical treatment.

"15. Repeated operations are indicated in cases of reaccumulation of fluid."

Thomas M. Rotch, Professor of Diseases of Children, Harvard University, says (*Journal American Medical Association*, January 10, 1903): "The most favorable form for treatment by laparotomy is miliary tuberculosis of the peritoneum with ascites; while the less favorable form for laparotomy is the fibrous form, and the prognosis in this fibrous form seems to be more favorable if ascites is present than if ascites is not present."

Joseph Eichberg, Professor of Medicine, Miami Medical College, says (*Journal American Medical Association*, October 3, 1903): "After all this elaborate effort at explanation, the true answer to the question as to why laparotomy cures tubercular peritonitis is 'because it does not.' The percentage of recoveries without operation, for all ages, and with or without complications, is greater than with operation. This is admittedly true of all forms except that with effusion, and here the results of medical treatment have been most satisfactory; for these are the cases which tend most commonly to spontaneous cure."

I have quoted the above opinions for the purpose of calling your attention to the seemingly wide variance of opinion on this subject. You will observe that all of the writers agree as to the very great value of hygienic and proper medical treatment. The last writer unwittingly suggests an hypothesis which may be pregnant with much truth—the efforts of nature may be of more value than either medicine or surgery.

My personal experience with the curative value of abdominal section in tuberculous peritonitis is such as to impress me with its importance and utility. The first case in which I made a section in this disease was one in which chronic relapsing appendicitis had been diagnosed. When the cavity was opened miliary tubercles were found in great profusion and dense adhesions were encountered at each move. There was no ascitic fluid. The appendix was not molested and the abdominal wall was sutured without drainage. The patient recovered quickly from the operation. When seen ten years later she had grown into a young lady—the picture of health. She remains well and strong to-day. She never had an attack of abdominal pain after the operation. Several similar cases have come under my observation since, but in almost all of them the operation has been undertaken upon an incorrect diagnosis. The most common error in diagnosis is that of chronic appendicitis, and the next most common one that of cholecystitis. This disease is sometimes mistaken for ovarian tumor, and occasionally the diseased Fallopian tube is tuberculous and gives rise to infection of the peritoneum. I have come to regard repeated attacks of pain in the ileo-cecal or gall-bladder region as highly suggestive of tuberculous peritonitis, especially if the pain is not severe and the constitutional symptoms are mild. One such case upon whom I operated was said, by her physician, to have had forty attacks of appendicitis in one year. In those cases in which gall-bladder disease is simulated dense adhesions have almost always been found binding the various abdominal viscera together. In a few of these cases jaundice has been caused by pressure of tuberculous glands in the lesser omentum upon the common duct.

It is rather difficult for one to lay down a general rule to be followed in this class of cases, but perhaps one will not be seriously mistaken if he gives these patients the benefit of general treatment and advises operation in those cases who do not improve under hygienic and medical treatment. I know of no statistics which will show the percentage of the cases which die after operation.

It was my original intention to consider some other varieties of surgical tuberculosis, but so much time has been occupied that I shall refrain from any further discussion of the subject.

In closing permit me to reaffirm the belief that the best results in this class of cases are obtained by the most thorough and conscientious endeavor to do everything that will add to the vital resisting powers of the patient. Surgery can only, at best, remove the *results* of the disease, while proper medical treatment may do much to eradicate the *cause* of disease, Let me include one word of warning regarding the use of drugs. Their use must be limited to the actual call for their exhibition, and extreme care must be used to avoid depressing and nauseating medicaments, because they tend to weaken the resisting powers of the patient. I am reminded, in this connection, of a saying of the late Dr. John A. Murphy—"Take care of the patient, and for God's sake let the disease alone!"

THE USE OF SALUBRIN IN DISEASES OF THE RESPIRATORY PASSAGES.

BY C. R. HOLMES, M.D.,
CINCINNATI,
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For some time past an interesting and unusual controversy has been going on in Sweden which has piled up such a mass of literature that it is strange that it has not attracted the attention of the physicians and chemists of other countries. Probably the explanation of this oversight lies in the fact that the controversy is in some of its phases a legal one. The patenting of "medicines" is forbidden by the Swedish law, and in Sweden, as in other civilized countries, medical ethics frowns severely upon the patenting by physicians of any agent they may discover that promises to be of any therapeutic value. The "medicine" or agent under discussion in this case is *salubrin* devised or invented by the Swedish chemist, P. Hakansson, of Eslof, who patented the name salubrin while publishing the formula of its composition. Apothecary August Lehman attacked the validity of the patent under the provisions of the law mentioned above, but the court seems to have adopted the views expressed in a depositien of Dr. Seved Ribbing, a practitioner of medicine whose eminent standing has evidently lent much weight to his written opinions. Dr. Ribbing says among other things:

"I have good reasons to regard it as altogether improper for a physician to prescribe and use arcana the quality and composition of which he cannot fully ascertain. But it so happens that men working in fields contiguous to that of medicine make valuable discoveries. These they will have patented, not, to be sure, as medicines, but because of some ether useful property—for instance, as food preservatives or toilet articles, etc. Such was the case with aseptin, so favorably and universally known in Sweden, and no one will deny that Henrik Gahn rendered an important service to medical science when, by his experiments, he revealed the antiseptic properties of boracic acid. No one can honestly assert that the patenting of aseptin and amykos has been detrimental in any way whatsoever.[1]

"Chemist P. Hakansson, of Eslof, who for several years kindly and freely permitted me to carry on experiments with regard to the influence of vinegar vapors in pulmonary and allied diseases, has in the progress of his work been led to the idea of composing a remedy for external use which he calls salubrin. It consists of vinegar, acetic ether and alcohol in varying proportions, with or without aromatic additions to improve the odor. With this remedy I have made a very great number of experiments, and found it to be excellent in many respects. Thus it is a very good and non-poisonous antiseptic to be used for wounds and injuries of various kinds. I have used it in treating rather serious injuries to hands and feet caused by machines. It is especially good against burns and frost bites of the first and second degrees, against old chilblains and ulcerations, against bruises and chafing. I have also found the preparation of service in special cases of eczema and other skin diseases limited in their locality. Against diphtheria I have used it for painting, washing and disinfection of the affected parts, and have good reason to be satisfied with the result."

Notwithstanding the statement of Dr. Ribbing that salubrin was "composed for external use," the fact is that salubrin, being non-poisonous, can be taken internally, properly diluted, and Hakansson had great hopes of benefit to be derived from its internal administration in the various forms of tuberculosis,on the ground that it would be taken up by the blood and destroy the tubercle bacilli wherever they might be found in the tissues. The reasoning on this theory is contained in the following extract from "Lakare Bok," by Henrik Berg, Ph.D., M.D., Stockholm, August, 1903:

"Brieger, who has accomplished so much in pathology by his splendid investigation of ptomaines, says: 'I believe that when we know the constitution of toxins it will be possible to introduce into the diseased organism certain groups of atoms which will unite with the noxious products to form innocuous compounds. Even now we have some starting points which justify the above assumption. I refer to the formation of ether-sulphuric acid (Baumann), glycoronic acid (Schmiedelberg), perhaps also the possibility of the body allowing the methyl radical to enter into the formation of certain definite bases. Moreover, since we now possess means, other than those of the living organism, to convert non-poisonous ptomaines into extremely poisonous toxins, we will in proper time discover methods by which, *vice versa*, noxious atom groups may be broken out of or split off from the molecule within the organism.' We have, in my estimation at least, one remedy in our pharmacopeia which possesses the quality predicted by the sage Brieger, namely, the quality to unite with the noxious substances (toxins) to form non-poisonous compounds. This remedy is acetic ether. Chemist P. Hagansson, the inventor of salubrin, says: 'When a reaction or rearrangement takes place when acetic ether comes into contact with an alkaline nitrogenous compound (*e. g.*, tubercle toxin and some other toxins), the result will be a neutral, fully saturated compound, no matter how the rearrangement takes place.' It seems rather surprising that no one, led by purely theoretical reasoning, has ever attempted to try acetic ether as a means of neutralizing such nitrogenous poisons as are produced by micro-organisms. Having by numerous trials in my own practice received confirmation of the efficiency of acetic ether in tubercular diseases, I was early led to make use of this substance in other bacterial disorders, and first of all in blood-poisoning. In these and many similar cases I have administered acetic ether internally with complete success. Dose in serious cases, forty drops of acetic ether or a teaspoonful of salubrin in a glass of water four times a day. In all cases of serious blood-poisoning from whatever cause, even snake bites and malignant diphtheria, I have never failed to give acetic ether or diluted salubrin internally as an antitoxin."

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[1] In 1867 Henrik Gahn, a chemist of Upsala, observed that the souring of milk was retarded by boracic acid. He thus discovered its antiseptic properties and obtained patent rights on commercial preparations of boracic acid which he named aseptin and amykos, the former a food preservative and the latter a cosmetic.

The composition of salubrin, as published in the *Pharmaceutische Zeitung*, is as follows:

Acidum aceticum	.02
Aether aceticus	.25
Spiritus concentratus	.50
Aqua destillata	.23

Acetic ether differs from acetic acid in having the H of the acid replaced by the atom group C_2H_5. This so-called ether, more properly called ethyl acetate, will be readily absorbed by the blood, but has the property of easily decomposing in presence of an alkaline substance with which it forms new compounds. These latter are necessarily neutral, and have chemical and physiological properties different from those of the original alkaline substance.

Albert Wallin, assistant at the Institute for Pathology, University of Upsala, has made some interesting studies to determine the germicidal properties of salubrin. To a culture tube containing 5 c.c. of pure culture of staphylococcus pyogenes aureus twenty-four hours old was added 1 c.c. of a solution of salubrin. (By some curious oversight, either on the part of the author or the printer, the strength of the solutions of salubrin are not given.) This tube was thoroughly shaken for two minutes, after which, at intervals of one minute, two small loops of bouillon were taken wherewith new sterilized broth-tubes were inoculated. The tubes were then placed in a thermostat. "The seven minute tubes of test liquid No. 5 remained clear during continuous thermostatic treatment, and thus proved to be sterile," but, unfortunately, the missing paragraph giving the strength of the solution of salubrin employed reduces Wallin's report to a mere statement that salubrin is an efficient antiseptic if used in sufficient quantity.

Berg, in the article already referred to, says: "Salubrin . . . changes the soil for bacterial growth in such a manner that the bacteria do not find the necessary conditions of life, and therefore perish. There is nothing in its composition to injure the body, whether it be applied to the membranes of the mouth or on an ulcer or otherwise. Its value in the treatment of ulcers can be determined by actual application only. . . . From personal experience in applying salubrin to sound and clean as well as neglected wounds, in tuberculous abscesses and in suppurating ulcers, I find that salubrin is a non-poisonous and very reliable antiseptic. It has also the great merit of being free from unpleasant and nauseating odors, such as are emitted by lysol, iodoform, etc."

Hakansson claims that the taking of acetic ether internally causes an increase in the volume of respiration and of the activity of the heart, and appears to promote metabolism even in cases where there is no poisoning by a toxin; also that it increases the secretion of urine and effects resorption of swellings caused by contusions or old chilblains.

The rather extensive foregoing extracts are given for two reasons. In the first place, because reports from the Scandinavian journals only rarely find their way directly into American print, usually coming to us by way of the German scientific press, and thereby suffering the results of two translations; and, in the second place, because they led to the taking up of a series of personal investigations both in the pathological laboratory and in private hospital practice to determine whether we had really found a new antiseptic preparation of real clinical value.

Following the method of Wallin, of

Upsala, described above, the following observations were made in the laboratories by Drs. Carl Hiller and Clifford Sater:

No. 1.—Full strength salubrin. Staphylococcus culture. After five days no growth apparent. Five tubes used.

No. 2.—November 3. Full strength salubrin. Diphtheria culture:

Tube 1	11 minutes.
“ 2	17 “
“ 3	22 “
“ 4	27 “
“ 5	30 “

No growth at end of twenty-four hours and for several days longer. November 9, on examination of tubes fluid growth in alt.

No. 3.—November 3. Full strength salubrin. Staphylococcus culture.

Tube 1	10 minutes.
“ 2	15 “
“ 3	20 “
“ 4	25 “
“ 5	29 “

No growth at end of twenty-four hours.

No 4.—November 4. Full strength salubrin. Staphylococcus culture.

Tube 1	1 minute.
“ 2	2 “
“ 3	3 “
“ 4	4 “
“ 5	5 “
“ 6	6 “
“ 7	7 “
“ 8	8 “
“ 9	9 “
“ 10	10 “

All remained sterile except tubes No. 2 and No. 3, which showed growth after forty-eight hours.

No. 5.—Salubrin one to ten. Staphylococcus culture:

Tube 1	5 minutes.
“ 2	10 “
“ 3	15 “
“ 4	20 “

At the end of twenty-four hours tubes No. 1 and No. 2 showed growth. No. 3 and No. 4 were still sterile. At the end of thirty-six hours No. 3 and No. 4 also showed growth.

No. 6.—November 5. Salubrin one to ten. Staphylococcus culture:

Tube 1	11 minutes.
“ 2	12 “
“ 3	13 “
“ 4	14 “
“ 5	15 “

All showed growth after thirty-six hours.

No. 7.—Salubrin one to five. Staphylococcus culture:

Tube 1	1 minute.
“ 2	2 “
“ 3	3 “
“ 4	5 “
“ 5	8 “
“ 6	10 “

All showed growth after twenty-four hours.

No. 8.—November 6. Full strength salubrin. Diphtheria culture:

Tube 1	2 minutes.
“ 2	5 “
“ 3	7 “
“ 4	9 “

All showed slight growth after thirty-six hours.

No. 9.—November 9. Full strength salubrin. Staphylococcus culture:

Tube 1	1 minute.
“ 2	2 “
“ 3	3 “
“ 4	4 “

All remained sterile after eighty-four hours.

No. 10.—Salubrin one to ten. Staphylococcus culture:

Tube 1	18 minutes.
“ 2	20 “
“ 3	22 “
“ 4	25 “
“ 5	27 “
“ 6	30 “

All showed growth at the end of twenty-four hours.

No. 11.—November 10. Full strength salubrin. Diphtheria culture:

Tube 1	11 minutes.
“ 2	16 “
“ 3	20 “
“ 4	25 “
“ 5	30 “
“ 6	40 “

At the end of eighty-four hours tube No. 2 was still sterile, but tube No. 4, which was sterile at the end of seventy-two hours, showed a slight growth. Tubes 1, 3, 5, 6 remained sterile almost forty-eight hours.

No. 12.—Full strength salubrin. Diphtheria culture:

Tube 1	11 minutes.
“ 2	16 “
“ 3	20 “
“ 4	25 “
“ 5	30 “
“ 6	40 “

All remained sterile after thirty-six

hours. Tubes 1, 3, 5, 6 showed growth at forty-eight hours. Tubes 2, 4 remained sterile after sixty hours.

No. 13.—Salubrin one to five. Staphylococcus culture:

Tube 1	10 minutes.
" 2	15 "
" 3	20 "
" 4	25 "
" 5	30 "
" 6	40 "

Tube 1 showed growth at end of twelve hours. Tube 2 showed growth at end of twenty-four hours. Tubes 3, 4 showed slight growth at end of thirty-six hours. Tube 5 showed growth at end of forty-eight hours. Tube 6 remained sterile after eighty-four hours.

No. 14.—Salubrin one to ten. Staphylococcus culture:

Tube 1	5 minutes.
" 2	10 "
" 3	15 "
" 4	20 "
" 5	25 "
" 6	35 "

All showed growth after twelve hours.

No. 15.—November 11. Salubrin one to ten. Staphylococcus culture:

Tube 1	40 minutes.
" 2	45 "
" 3	50 "
" 4	55 "
" 5	60 "
" 6	65 "

Tube 1 showed growth after twelve hours. All were growing at end of twenty-four hours.

No. 16.—November 14. Full strength salubrin. Diphtheria culture:

Tube 1	2 minutes.
" 2	5 "
" 3	7 "
" 4	9 "
" 5	11 "
" 6	16 "
" 7	17 "
" 8	20 "
" 9	22 "
" 10	25 "
" 11	27 "
" 12	30 "
" 13	40 "

All tubes but those of 16 and 25 minutes showed growth at end of forty-eight hours. The 25-minute tube showed growth at end of eighty-four hours, but the 16-minute tube remained sterile.

No. 17.—Salubrin one to ten. Staphylococcus culture:

Tube 1	5 minutes.
" 2	10 "
" 3	11 "
" 4	12 "
" 5	13 "
" 6	14 "
" 7	15 "
" 8	18 "
" 9	20 "
" 10	22 "
" 11	25 "
" 12	27 "
" 13	30 "
" 14	35 "
" 15	40 "
" 16	45 "
" 17	50 "
" 18	55 "
" 19	60 "
" 20	1 hr. 5 "
" 21	" 15 "
" 22	" 30 "
" 23	" 38 "
" 24	" 50 "
" 25	2 hrs.

All showed growth after thirty-six hours' incubation.

No. 18.—Salubrin one to five. Staphylococcus culture:

Tube 1	1 minute.
" 2	2 "
" 3	3 "
" 4	5 "
" 5	8 "
" 6	10 "
" 7	15 "
" 8	20 "
" 9	25 "
" 10	30 "
" 11	40 "
" 12	50 "
" 13	60 "
" 14	1 hr. 15 "
" 15	" 30 "
" 16	" 45 "

At end of eighty-four hours tube at forty minutes exposure remains sterile; all others show growth.

No. 19.—Full strength salubrin. Staphylococcus culture:

Tube 1	1 minute.
" 2	2 "
" 3	3 "
" 4	4 "
" 5	5 "
" 6	6 "
" 7	7 "
" 8	8 "
" 9	9 "
" 10	10 "
" 11	15 "
" 12	20 "
" 13	25 "
" 14	30 "
" 15	1 hr.
" 16	1 " 30 "
" 17	2 "

" 18 . . . . 2 " 30 "
" 19 . . . . 3 "

All remain sterile after eighty-four hours' incubation.

After having verified the laboratory observations of the Swedish experimenters by the series of tests detailed in the foregoing pages, but a short time has remained for a critical clinical study of the action of salubrin on pathologically affected tissues in the treatment-room.

I have used it in my practice during the past year, trying it in strengths varying from 1 to 10 to full strength, in cases of acute, subacute and chronic purulent otitis media; also as a gargle in affections of the throat and as a spray in affections of the nose. A teaspoonful in one-fourth to one-half tumbler of hot water makes a most efficient gargle, especially valuable in catarrhal and rheumatic affections of the throat. Being non-poisonous, it can, of course, be used with the greatest freedom, as it can be taken internally with perfect immunity when properly diluted. So far I have limited my recorded studies of this preparation to its action in fifty cases of acute, subacute and chronic purulent otitis media. Without going into details, I can report that in acute purulent otitis I found it to be of no value. In subacute purulent otitis it was found valuable in 25 per cent. of cases. But in chronic purulent otitis media with extensive destruction of the membrana tympani and a slight and often offensive discharge, salubrin in full strength has in my hands so far proven by far the best remedy I have ever used. Several cases healed promptly and have remained dry for months; while in some cases in which a relapse occurred the parts promptly became dry after again using the salubrin.

In one case a paracentesis of the drum membrane was made for an acute congestion of the middle ear with serous exudation occurring in the course of a chronic catarrhal otitis. Salubrin was used in full strength, and, as usual, the patient complained of severe pain, which, however, quickly subsided as usual. In two days the wound in the membrana tympani was closed; there were no râles to be heard on catheterization and inflation, and the previous signs of congestion were disappearing rapidly.

In case of radical operation for a mastoid infection following an acute purulent otitis in a man of fifty-nine years of age, the post-operative course of repair was very slow and unsatisfactory, but almost immediately upon a resort to the use of salubrin the history records that "the ear greatly improved." This case was discharged well about six weeks after beginning with the salubrin, which was used full strength and half strength.

I think we have in salubrin a remedy which promises to be of material value to us. Theoretically and judging from its chemical composition, it should be an efficient antiseptic or germicide, either when taken internally or when used locally in the suppurating cavities that we deal with in many departments of surgery. In the laboratory it demonstrates that it can retard and in some instances absolutely prevent the development of pathogenic micro-organisms. A more extended employment of it would give us a clue as to the limits of its usefulness, and no doubt widen the field of its application.

PROGNOSIS.*

BY JOHN M. BATTEN, M.D.,
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Prognosis is based on diagnosis. If the diagnosis is correct we can more easily make a true prognosis. We were a victim of an unfavorable prognosis in 1870, based on a wrong diagnosis. We had a sister die of phthisis pulmonalis in 1869. In March of the following year we suffered with an attack of pleuro-pneumonia, which left us with empyema or pus in the pleural cavity of the lower part of the left lung, which kept up a lingering cough, with expectoration of blood, together with pain in the affected part. Many physicians who examined me pronounced my ailment phthisis pulmonalis, and that I might possibly be benefited in the climate of St. Paul, Minn. About this time I was examined by a physician who found out the true cause of my complaint, and through his direction I was restored to my wonted health.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11-13, 1904.

It is my habit, if I can avoid it, not to give an unfavorable prognosis, but if I am forced to make one to make it to a second person. I have witnessed many cases where an unfavorable prognosis was made linger a long time and then finally recover. I have been called to see cases that have been given up as hopeless ones by physicians that have afterward entirely recovered. This was no fault of the attending physicians' management of the cases, but was owing to their belonging to the pessimistic class of physicians.

There is an heredity of tolerance in disease in persons which can be markedly noticed in many cases. This factor in disease should always be considered in making a prognosis. Two cases came under my observation which exemplify this truth. Both were the same age, the same sex, and, so far as could be judged, the same strength. One succumbed to the effect of the disease, the other recovered. When I came to search for the cause of the death of the one, I could find it only in his being less tolerant in disease than the other; for the care, diet and treatment, in every respect, were the same. A physician often builds his reputation on what seems to be his fortune in being called to patients that are more tolerant to disease than those of his less fortunate brother-physicians. One time I remember of having been in attendance on two cases of typhoid fever. As far as we were able to judge they were similar cases. My prognosis of them was good, and I had no thought of either of them dying of the effects of the disease. They were both taken sick about the same time. About two weeks after my commencement to attend the cases I was discharged from one of them. Soon after my discharge from the patient he, without accidental causes, died, while the one I continued to attend recovered. Now, was this a case in which one had more tolerance to disease than the other, or was the death caused by the mismanagement of the case? Sometimes the physician in attendance upon a patient belongs to that class of people who are pessimistic and never look on the bright side of anything. The world is always dark to them. In this condition he is not likely to give a favorable prognosis.

Several years ago a case, a boy five years old, affected with post-scarlatinal nephritis, accompanied with extreme anasarca, anemia and hematuria, came under my observation in which I am sure that the stand I took for a favorable prognosis saved the life of my patient.

I remember one time of being called to a case of post-pharyngeal abscess that was in a dying condition on account of the pressure it produced against the larynx, obstructing to an extreme degree the intake of air. The case had been given up as hopeless by the attending physician. I simply, in making an examination of the child, pressed the abscess with my index finger and the pus welled out of the mouth of the child and it was immediately relieved.

I recall a gunshot wound of the ankle joint in 1863, in which Professor Samuel D. Gross made the prognosis that if the leg was not amputated the patient would die from the effects of the wound. The leg was not amputated, nor did the patient die, but recovered the full use of his leg. Two soldiers had the right external iliacs ligated on the same day from the effect of gunshot wounds received at the battle of Gettysburg. One recovered and the other died. A soldier was wounded in the neck by a fragment of shell at the battle of Gettysburg. The fleshy part of the neck, except larynx, trachea and blood-vessels, was carried away. The patient was nourished per rectum three months, and in spite of an unfavorable prognosis he finally fully recovered. In making my daily visits in an active practice I could usually intuitively decide whether or not my patient would recover, and this decision was strengthened on the side of recovery when I had the full confidence of my patient and his family.

When Caucasian blood was mixed with African blood I have found that there is very little tolerance to disease manifested in that class of people, and especially among their children.

The early attacks in epidemics or endemics are more fatal than those that occur later on, when the poison becomes more disseminated. The same is true of those in a family first attacked with infectious diseases. The fatality is always greatest amongst those attacked early. Epidemics or endemics invariably differ at different periods in their fatality.

No disease should be looked upon as trivial and insignificant. No mother who has lost a child from chicken-pox or measles wants to be told that these diseases are not dangerous. Nor does it increase the confidence in the profession to be told by it that neuro-thenia and hysteria are imaginary diseases.

The question of imparting an unfavorable prognosis may be considered in cases where wills are to be made or the last rites of the church or faith has to be administered.

Some physicians magnify the seriousness of all cases to which they are called in the view of increasing their reputation in the treatment of serious cases.

Many physicians feel like abandoning cases when there is no hope of their recovery. They think it wrong to run a bill for attending such cases. Other physicians, if possible, send such patients away from home simply to get rid of them.

The condition of the heart and blood-vessels should be taken into consideration in making a prognosis. To give a favorable prognosis, the heart and blood-vessels must be in perfect condition. In fact, all the organs must be sound.

The rule of giving the patient a good prognosis and his friends and relatives a bad one can often be followed, but sometimes it may be reversed with benefit to the patient. It is often necessary to keep up the spirits of the relatives, especially those who have the care of the patient, rather than the patient.

Darwin cites some cases of the kind from his father's practice. ("The Life and Letters of Charles Darwin," edited by his son, Francis Darwin, New York, 1887, Vol. I.) Called to see a patient who had been given up to die by the family physician, Dr. Darwin took a different view of the matter, and maintained that the man would recover. He was found quite wrong in all respects and owned his error. He was convinced that he should never again be consulted by the family, and was much surprised at being called in after a few months by the widow. He asked a friend of the widow why he was again consulted. The widow said that she would never again see the odious old doctor who said, from the first, that her husband would die, while Dr. Darwin always maintained he would recover. In another case Dr. Darwin told a lady that her sick husband would certainly die. Some months afterward he saw the widow, who was a very sensible woman, and she said: 'You are a very young man, and allow me to advise you always to give as long as you possibly can hope to any dear relative nursing the patient. You made me despair, and from that moment I lost my strength.' My father, continued Darwin, said that he had often since seen the paramount importance for the sake of the patient of keeping up the hope, and with it the strength of the nurse in charge.

In a letter of Theodore Billroth, 1902, speaking of the slow decline of Professor Briesky and of the attending physician telling the whole truth to the wife, he remarked: "I admit under certain circumstances this is necessary; but here I do not think it is necessary. How can a poor wife, without a glimmer of hope, bear the weeks till the liberator of all sorrows gently approaches the husband? We should give her courage, and the poor patient morphine. A hard task. But let us remember that every family physician is in this situation hundreds of times, and often has to see his incurable patients daily. If the young man suspected these mental tortures when he enthusiastically enters the temple of Æsculapius he would surely turn back. To face the unveiled figure of Sais requires all the undaunted resignation that we slowly win in our profession." (*Journal American Medical Association* Vol. xlii, No. 24.)

DISCUSSION.

Dr. John Punton, Kansas City, Mo.: This paper seems to me a very important one. I doubt very much whether it is just right and whether it is professional for any man in the practice of medicine to assume for himself the right to prognosticate hope when no hope can be offered. Many a man makes himself in the practice of medicine and many a man undoes himself by making a favorable or unfavorable prognosis. Often it is exceedingly difficult to foretell the result of disease. There is nothing in which the beginner in medicine has to exercise more judgment than in prognosis. There is nothing more difficult in the practice of medicine than the pronosis of disease, and especially is this true in nervous and mental diseases. I am one of those who believe that the more we learn of nervous diseases and mental diseases the more difficult the prognosis becomes. For instance, I find the very conditions which favor an apparently hopeful prognosis very often prove to the contrary. It is absolutely so in my practice. It is often the unexpected that happens in disease. Often the very most hopeful of prognostic symptoms disappoint us. It does not seem to me that we are called upon at all times to offer a hopeful prognosis. I do think, however, that we should be honest in our judgment, and the more honest we are in dealing with our clientèle the better it is for us in the practice of medicine. Often the doctor is damned if he does and damned if he doesn't, and it is better if he is true to his judgment. Our judgment may be wrong. The doctor has illustrated how easy it is for even a great man to be mistaken, and how easy it is for a very small man sometimes to be correct.

Dr. Greenleigh: Often we come across cases that have been given up to die. If we find no organic disease sufficient to produce death, it it is our duty to treat the mind as well as the body. We may then instill hope into them and save their lives. I believe in some cases I have been able to actually save life by that line of treatment. In one case the man declared that his wife insisted upon sending for me, but he was certain he would die. I told him, with assurance: "You drink milk for a week and then I will come back and you will be as well as I am." And he was. In another case I found no organic lesion. The patient was a woman. I told her to follow the treatment I gave for a week and she would be up and about the room, and she recovered. In another case I thought the patient would die in spite of everything. I worked two hours, using injections and other methods, before I could feel her pulse. She recovered. In one case, that had been gfven up to die, I found the patient was "hippoed." All he needed was rest. I told him all he wanted was sleep, and after a talk with him I got him to joking and laughing. I tried treating the case without medicine, and the next morning by breakfast-time he was all right. He said: "Greenleigh is the greatest doctor I ever saw. I called for him and told him I was going to die, and he didn't even give me any medicine, but I got well."

SOME DERMATOLOGIC X-RAY ABUSES.*

A Practical Demonstration from Lantern-Slides.

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It is now almost universally conceded that the X-ray occupies a very important, if not an absolutely indispensable, place in dermatologic therapy. Its employment has been amply prolonged and has become sufficiently general during the past five or ten years to permit us to cast a retrospective glance over what has been already accomplished, to estimate its possible attainments, to judge its shortcomings and deficiencies, and to note its unfavorable and at times dangerous influences.

Some of the untoward effects of the X-ray have been long recognized, and in a measure safeguarded by improved methods of technique, entailing the use of protective shields, frequency and duration of exposure, focal distance, character of tube, current, etc., conditions familiar to all who are in the least versed in X-ray therapy, so that severe burns, distressing and disfiguring dermatites, pigmentations, etc., are in a great measure avoided, but the abuses which will be here presented for consideration, while in part attributable to some disregard of the above requirements in technical administration, are chiefly those which have their origin in the inherent inefficiency of the X-ray and its failure to meet the demands made upon it. It will be the purpose, then, of this demonstration to direct the attention merely to some of the unfavorable aspects of X-ray therapy, as gleaned from experience with cases under our own care, and from observation of cases which have received treatment at the hands of others.

The unquestioned favorable influence of the X-ray in psoriasis, chronic and persistent forms of eczema and superficial inflammations, in tenia, lichen ruber, superficial epithelioma, Paget's disease, etc., will not be considered, nor will any attempt be made to disparage in any way its employment under proper and well-regulated conditions, but that it is capable of positive and definite harm in inexperienced and unskillful hands we shall endeavor to show. In addition to this, we shall attempt to demonstrate that some of the high hopes which were entertained for X ray therapy have been unrealized, and that many of the conditions for which it has been held and believed a specific cure, while to some considerable degree ameliorated, are frequently not carried to complete recovery; and, indeed, epithelioma, a condition which the X-ray is supposed to cure, will develop upon the base of an X-ray dermatitis. The negative results of its use in a number of cases of malignant disease of the skin, some of which were under our own care, have given us the impression that its use in this direction is not only less efficacious than some other forms of treatment, but that it may be attended with serious and often fatal delay. In lupus vulgaris its use has seldom resulted in more than temporary improvement, and prolonged and persistent administration has often been accompanied by severe reactionary inflammation, distressing to the patient and embarrassing and discouraging to the physician.

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* Read before the Academy of Medicine of Cincinnati, February 13, 1905.

In support of the above claims we wish to present a number of cases of somewhat varied character which have come under observation during the past few years, in which we believe it to be proved that the X-ray possesses decided limitations in point of efficiency, and has often exerted, in addition, a perniciously deleterious influence.

CASE I.

Epithelioma Induced and Actinomycosis Unsuccessfully Treated by the X-ray.

J. H., dairyman, aged sixty-two, in December, 1900, consulted a surgeon on account of a painful neuralgic inflammation of the right lower jaw. After all the inferior teeth of that side were removed in June, 1901, without relief, the patient consulted another surgeon in January, 1902, who made a diagnosis of sarcoma and advised extirpation of the lower maxilla, ande mad an unfavorable prognosis. The disheartened and discouraged patient then placed himself in March, 1902, under the care of an X-ray specialist, with the result of incurring an intense X-ray dermatitis after twenty-five exposures without improvement. In September of same year he consulted another such specialist, who administered twenty exposures without improvement, but instead induced an extensive ulcerating dermatitis. On December 17, 1902, an examination revealed the following condition: Jaw on affected side thickened and enlarged; overlying skin diffusely infiltrated, deep brownish-red in color, doughy and semi-fluctuating in consistence. Below the angle of the jaw were five long narrow sinuses, from which constantly oozed a quantity of thin sero-purulent discharge, and an increased amount on pressure or movement. Contained in this discharge were yellowish-colored flakes, which, when macerated, stained and placed under the microscope, revealed the characteristic central body and mycelia of the ray fungus.

This patient was a dairyman and had disposed of a lumpy-jawed cow shortly prior to the time of his first noticing the trouble; in addition to this history, the clinical and microscopical evidences were clearly those of actinomycosis. Under iodipin injections and K. I. administration he made rapid progress. The pains disappeared, the infiltration and swelling subsided, and he gained in weight and strength, but the X-ray ulcer, which possessed an entirely different character and location from the primary condition, being situated quite outside the originally involved area, resisted attention in every form and took on the clinical characteristics of epithelioma, which was confirmed by histological examination. Gradually advancing, it assumed the type of an extensive rodent ulcer, eventually destroying a vast amount of underlying soft and bony tissue, and to its depressing and vitiating influence the patient finally succumbed in August, 1904. In this case the X-ray not only failed as a theapeutic measure, but it defeated a legitimate recovery by imposing through its influence an incurable malignant condition.

CASE II.

Epithelioma Induced by the X-Ray.

S. T., male, aged forty-eight. Came first under observation in October, 1898, for treatment for an extensive X-ray dermatitis of the abdomen, which followed an exposure of one and a half hours in July, 1895, for the purpose of determining the presence of renal calculi. The resulting ulcer was exceedingly indolent in character, and cicatrization was not complete after a period of over three years. Such scar as has formed is thin and parchment like, hair follicles and glandular elements entirely obliterated, and the surface is traversed by a dense mesh of telangiectic capillaries. It has during this time been the seat of much hyperesthesia and irritation.

On November 10, 1901, a photograph was taken which showed the affected area to be completely cicatricized and free from all objective evidence of inflammation.

On December 16, 1904, there was present near the centre of the cicatrix a small ulcer about the size of a Lima bean, with indurated base and elevated, glistening, mother-of-pearl border, which began insidiously, slowly enlarged with successive crust formation, and thus presents all the clinical evidences of a well-defined epithelioma. Palliative treatment has been instituted and a histologic confirmation has been deferred until extirpation is deemed necessary.

CASE III.

X-Ray Dermatitis Bearing a Deceptive Clinical Resemblance to Epithelioma.

Mrs. S. W., aged sixty-seven, consulted a physician in the spring of 1904 relative to some slight irritation of the right nipple, probably eczematous in nature. She was referred to an X ray specialist, who administered a large number of X-ray treatments without intermission during the summer and fall of 1904, with the result of increasing the irritation and gradually inducing an intense ulcerative X-ray burn; in addition to this she also incurred a severe dermatitis of the right hand, with partial loss of the nails of that hand from exposure of that member while holding back her garments during treatment. In December, 1904, this specialist referred her back to the physician, who now urged a prompt amputation of the entire breast, because the X-ray had failed to control the Paget's disease(?) which was endangering her life.

On date of the first examination, January 2, 1905, the case presented all the clinical characteristics of an extensive and severe X-ray dermatitis. The entire area which had been exposed to the rays was diffusely erythematous and covered with scaly desquamation, extremely hyperemic, predisposed to irritation and injury, and thin and parchment-like in character. The central area near the nipple was the seat of an indolent ulcer, which was easily irritated, and refractory to treatment. There was no infiltrated erythematous border, nor anything of a clinical nature that suggested Paget's disease, or a dangerously advancing epithelioma. The skin, though somewhat infiltrated from the long-continued dermatitis, was freely movable over the pectoral muscles and underlying tissues. Glandular tissue was present to equal degree in both mammæ, and showed no marked variation from each other or from the normal in consistency or outline, and the axillary glands were not enlarged. The dermatitis, which, by reason of some inexplicable idiosyncrasy, proved intractable to ointments in every form, and doubtless had been aggravàted by their long-continued use, yielded rapidly to the use of dusting powders, and patient eventually made a complete and satisfactory recovery.

The case is instructive in point of the degree of misuse to which the X-ray on occasion can be employed to play the patient from the surgeon to the X-ray specialist and back to the surgeon. And further, if the X-ray fails to cure incipient epithelioma, it may induce a condition which possesses at least a deceptive resemblance.

CASE IV.

X-Ray Dermatitis with Deceptive Resemblance to Epithelioma in a Case of Keratosis Senilis.

Mr. M. M. K., merchant, aged sixty-two years, states that for the past few years he has been troubled with the development over the hands and face of small warty excrescences, which at times become excoriations, accompanied with crust formations. On the date of his first visit, December 28, 1904, the condition was an easily recognized keratosis senilis, with the exception that there was some dermatitis and considerable reactionary inflammation about one lesion on the left cheek, which was covered with heavy crusts. The greater portion of the left cheek was the seat of a thin, irregular cicatrix, which the patient stated had been the site of an ulcerative inflammation existing from the time when he was a year and a half old until he reached fourteen, and which, from this history and the appearance of the cicatrix, was undoubtedly lupus vulgaris. The ulcer on the cheek had been given repeated and prolonged X-ray treatments during September and October, 1904, with the result that a dermatitis ensued and the ulcer became larger and more irritable. Clinically it possesses the characteristics of an epithelioma, but the histological examination revealed a merely moderate degree of inflammation, and with extensive proliferation of the stratum corneum. The lesion of hand, which was also excised, showed the same histological character.

CASE V.

Dangerous Procrastination and Unsuccessful X-Ray Treatment for Epithelioma of the Lip.

W. H. F., aged fifty-nine, was the subject for three years prior to his first visit, October 15, 1903, of an epithelioma of the lower lip, for which he was given X-ray treatment once a week during 1902–3 for almost a year, receiving more than fifty exposures without improvement. On Decembear 18, 1903, the lesion was thoroughly excised and there has been no recurrence *in situ* up to the present time. The submaxillary gland, which showed some early enlargement, took on increased growth and was removed January 19, 1903.

Procrastination in the use of the X-ray in this case has rendered the subsequent operative interference more extensive and has jeopardized the chances for ultimate recovery.

CASE VI.

Unsuccessfnl X-Ray Treatment for Epithelioma of the Nose.

Mrs. R. S., aged eighty-one. Epithelioma of the nose of five years' duration. Treated with the X-ray from March 14 to July 8, 1904, being given eighteen exposures, once or twice weekly, for periods of eight to fifteen minutes. In the beginning improvement was marked and rapid, but a complete recovery was not obtained. Towards the end of that time the X-ray apparently lost its effect and was discarded, on account of its tedious and time-consuming character, for the Marsden paste, which was applied on January 28, 1905, and now gives evidence of being successfully relieved and permanently cured.

CASE VII.

Unsuccessful X-Ray Treatment for Epithelioma of the Neck.

G. K., farmer, aged thirty-eight. Epithelioma of neck which had recurred after operation two years previously. Uninfluenced by two months of frequent and persistent X-ray treatment during June and July, 1904. The area involved was, however, large in extent, the underlying tissues deeply infiltrated, and the cervical glands enormously enlarged, so that the case was altogether hopeless and inoperable.

CASE VIII.

Sarcoma of Shoulder Unsuccessfully Treated with the X-Ray.

Mr. J. H., aged forty-seven years, cigar-maker. Had a small mole on left shoulder, which had become inflamed from irritation of the suspenders, and was partially excised in the fall of 1900. It was repeatedly removed in May, 1901, and November, 1902, and was treated with the X-ray in February and March, 1903. On May 14, 1903, on patient's first visit, the condition was hopeless and inoperable, with large metastases in the neighborhood of the primary lesion and smaller ones distributed over the entire body. The X-ray failed to effect any appreciable change in our personal hands, and patient succumbed early in the summer.

CASE IX.

Mr. B. F. J., aged seventy-eight, injured his left hand eight years prior to his first visit, June 18, 1902. A sort of wart (keratosis senilis?) formed, which became no larger than a postage stamp for almost five years. The previous three years it ulcerated and enlarged. Was unsuccessfully treated by cancer quacks by means of pastes, in the spring and winter of 1901. The X-ray was personally administered thirty-two times in June and July, 1902, with some improvement in the beginning, but without effecting a complete recovery. Patient sustained a severe fall on August 19, and died September 12, without sustaining much local improvement. Death was predisposed by his general debilitated condition.

CASE X.

Epithelioma of Face Unsuccessfully Treated with X-Ray.

Mrs. R. E., aged forty-eight(?) Epithelioma on right side of face over malar bone size of a silver dollar, of three years' duration. Was treated with the X-ray from September 6 to November 8, 1904, with very material improvement during the first four weeks of treatment. From October 4, 1904, the epithelioma became irritable and refractory to the X-ray, and on January 19, 1905, the Heraeus mercury lamp form of Finsen therapy was substituted with most excellent results.

CASE XI.

Glioma Unsuccessfully Treated with X-Ray.

Miss N. F., aged forty years. Noted impaired vision of left eye six years prior to her first visit, August 8, 1903. The eye was removed by an oculist in 1898. The glioma appeared in the eviscerated orbit in 1900, and had assumed the size of an orange on the occasion of patient's first visit, with metastases over entire body. The X ray was energetically used without apparent improvement, and patient succumbed within a few months after treatment was suspended, in September, 1903.

CASE XII.

Four Cases of Lupus Vulgaris of Face Unsuccessfully Treated with X-Ray.

E. J., aged thirteen, with a large patch of lupus vulgaris of deeply imbedded nodules, which originally covered the major portion of the left cheek, and present since patient was one and a half years of age. Was treated with X ray with material improvement from September 27 to December 6, 1902. Intolerance on the part of the patient and failure to show further improvement compelled the treatment to be changed, and the Truax & Greene modified London hospital lamp was continuously employed during almost the entire year of 1903. No material improvement, however, was noted, doubtless due to the weak character of the treatment. The X-ray was again employed in February, March and April, 1904, but this time without appreciable benefit, and again in August, September and October with rather unfavorable results. On December 12, 1904, treatment with the Heraeus mercury lamp was instituted with the result that patient is now convalescent (February 9, 1905), and practically cured of lupus.

CASE XIII.

Mrs. B. B. D., aged thirty-seven years. Lupus vulgaris of seven years' duration, with deeply imbedded nodules, covering an area not larger than a twenty-five cent piece, on the left cheek. An extirpation was unsuccessfully performed in 1899. Eighty X-ray exposures were entirely unsuccessfully administered at the hands of several skillful and capable X ray specialists in 1902. The modified London lamp was unsuccessfully used from June to November, 1903. The X-ray was again unsuccessfully used in January, February and March, 1904. Some improvement was effected by means of electrolysis on April 20 and July 21, 1904, and the mercury lamp has effected the most rapid and material change from three exposures of ten to fifteen minutes each on January 21 and 28 and February 4, 1905.

CASE XIV.

Miss M. W., aged thirty years, presented herself for the first time April 19, 1903, with a patch of lupus vulgaris, consisting of deeply imbedded, suppurating nodules the size of a silver quarter, immediately under the left eye, over the malar bone. Duration was two years. An arsenical paste was applied early without results, and a second physician one year later attempted an unsuccessful extirpation. The London hospital lamp was unsuccessfully employed from April to October, 1903, and the X-ray with equally unsuccessful results from November 1, 1903, to May 15, 1904. Patient passed from personal observation July 8, 1904, to February 5, 1905, during which period she had received sixty daily or almost daily X-ray exposures at the hands of quacks without material benefit.

CASE XV.

Mrs. P. K., colored, aged forty-two. With an extensive area of lupus vulgaris, microscopically confirmed, involving almost entire right side of face, two-thirds of the circumference of the neck, and a portion of the left cheek, of thirty years' duration. Was submitted to the energetic action of the X-ray June, July and August, 1904, without material change or marked improvement. The condition is now rapidly yielding to the Heraeus mercury lamp.

CASE XVI.

Alopecia Areata Unfavorably Treated with the X-Ray.

J. Mc., aged eighteen, was treated with the X-ray on March 8, 15, 22, and April 1, 1902, for an alopecia areata of two years' duration, after the method of Keinbock, Holzknecht, Schiff and others, with the result that it induced a permanent alopecia, which has persisted to this day. The case was particularly favorable for the control experiment, being one of multiple circumscribed patches. Fortunately, only one patch was treated with the X-ray, and all others which were protected from this action with lead foil have long entirely recovered and are clothed with well-developed hair.

CONCLUSION.

In conclusion, we beg to state that these cases have been selected from a larger class of similar experiences chiefly because they are especially adapted for this practical demonstration by reason of their careful photographic record. We trust that the records speak for themselves, and permit, with the brief history accorded them, each member to form his own estimation regarding the character of the photo-therapeutic results. In other words, the records should speak for themselves. Briefly summarized, our personal estimation is as follows:

1. The X-ray is not an infallibly reliable therapeutic agent in epithelioma, sarcoma and lupus vulgaris.
2. Procrastination from its use is often attended with irreparable harm.
3. The prolonged or careless use of the X-ray can be productive of epithelioma.
4. The use of the knife or well-adapted pastes, in selected cases of epithelioma, is preferable to X-ray in point of prompt and efficacious result.
5. In lupus vulgaris the X-ray possesses decidedly secondary powers to ultra-violet light. The X-ray may effect an early partial improvement or even a complete cure, but its persistent use is almost invariably followed by an unfavorable reaction.
6. In alopecia areata, the X-ray has not only failed to promote the return of hair, but has induced permanent baldness.
7. The indiscriminate use of the X-ray as a cure-all tends to obtund the diagnostic perception and to place an inferior value on the higher keenness of attributes and loftier attainments of an advanced and discriminating medical knowledge.

19 W. Seventh Street.

(For discussion see p. 448.)

CASE OF SPLENIC ANEMIA—BANTI'S DISEASE (?)—SPLENIC ENLARGEMENT FOR FIVE YEARS; HEMORRHAGES FOR ONE YEAR.*

BY JOHN M. WITHROW, A.M., M.D.,
CINCINNATI.

Mrs. C., sent to me by Dr. E. R. Beard, Liberty, Ind., October 1, 1902, on account of abdominal tumor which she had noticed during the past two years, dating back to the latter part of 1900. Patient was twenty-nine years old, and had never had malaria, syphilis or cirrhosis of the liver.

At the time of her examination she seemed to be in fair general health, although somewhat pale. Her general health previous to the present experience had been fairly good. She had given birth to one child, which was at this time three years old.

Menstruation had returned normally after this birth, and she had been regular up to a year ago. Since that time she had been irregular. Prior to this examination she had missed two periods.

Upon examination a movable tumor in the left hypochondrium could be readily made out. It could not be moved down to the pelvis, but could be moved up under the left hypochondrium.

The uterus was found large and flabby, and the tumor could be pressed down as far as the anterior superior spine of the ilium. I was uncertain as to diagnosis, believing it to be a kidney. Dr. R. B. Hall saw the case with me at the time, and thought it probably a kidney. The patient developed grippe while in the hospital, and that, with the uncertainty of the diagnosis, led me to discharge the patient, asking her to return for future examination.

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* Read before the Academy of Medicine of Cincinnati, February 13, 1905.

Two weeks after her return home, about October 25, she aborted a pregnancy of a little over two months' gestation, so far as could be ascertained. I confess I had not thought the enlargement of the uterus noted at my first examination due to pregnancy.

The tumor, however, remained unchanged, although it seemed gradually to increase in size during the following year, and she did not reappear for examination until November 8, 1903.

The tumor at this time was very considerably larger than when first seen, one year before. The position and shape of the tumor had changed to such an extent that the splenic notch could be well marked out, and I determined that it was an enlarged and movable spleen.

She was seen at this time by Dr. J. C. Oliver, who confirmed this diagnosis. Blood examination was made at this time, but the notes only include the red and white corpuscles:

Reds	2,800,000
Whites	3,400

There was no enlargement of the liver. She was put upon Fowler's solution, gradually increasing the doses, and requested to return in one month.

On December 6, she presented herself for examination again, and a differential blood count was made by Dr. Friedlander, which showed:

Reds	3,800,000
Whites	3,400
Hemoglobin . .	75 per cent.
Large lymphocytes .	10 "
Small lymphocytes .	21 "
Eosinophiles . .	1 "

No abnormal cells, no nucleated reds. The splenic tumor was not reduced in size, possibly increased. Some bronzed patches over the forehead are present, and the skin generally darker than at first examination.

There was an increase in the red corpuscles, probably due to the arsenic; there was no change in the whites, and a diagnosis of *splenic anemia*, or *Banti's disease*, was made.

There was no subjective symptom at this time, and she was requested to return in two or three months for another examination. She did not appear, however, until March 21, 1904, when the tumor was found to be considerably enlarged and lower in the abdomen, reaching to the right of the median line below the umbilicus.

The blood count at this time made by Dr. Friedlander showed:

Reds	4,800,000
Whites	10,000
Hemoglobin . .	85 per cent.
Large lymphocytes . .	7 "
Small lymphocytes .	14 "
Polymorphonuclear	76 "
Eosinophiles . .	1 "

The patient at this time was complaining of general fatigue and lack of resistance, and from her own statement she had noted that the tumor was lower in the abdomen.

The patient had been taking arsenic from time to time, and iron occasionally, although the latter disagreed with her stomach. She next presented herself for examination on July 10, 1904. Blood count was made by Dr. Heyn, showing:

Reds	4,100,000
Whites	2,400
Hemoglobin . .	65 per cent.
Large lymphocytes	8 "
Small lymphocytes .	14 "
Polymorphonuclear	60 "
Eosinophiles . .	8 "

The tumor had now increased some in size, and extended two inches to the right of the median line.

She was now beginning to note some puffiness in the hands. She had missed one or two menstrual periods. There had been some loss of strength, although her general health has kept up fairly well, and she is almost as well able to do her work as she was a year ago.

Patient next appeared for examination on October 13, 1904. She had been having some diarrhea with blood in stools, and during the past month there had been some bleeding from the nose and gums. She had also noted some swelling of the legs, and has menstruated only once since last examination in July.

None of the hemorrhages have been particularly severe. It is quite evident, however, that in a general way there has been considerable loss of strength, and she is less able than she has been at any time to meet her domestic requirements.

The blood count made by Dr. Heyn shows:

Reds	4,437,000
Whites	6,200
Hemoglobin	60 per cent.
Large lymphocytes	8½ "
Small lymphocytes	15 "
Polymorphonuclear	73 "
Eosinophiles	5 "

It will be noted that this count was made just after the patient's stools had been bloody for several days.

At my request the patient came to the city February 13, 1905, for another examination. The spleen appears not to have increased any in size since October last, the time of last examination. She has had but one hemorrhage, and that an epistaxis, since that time. I am unable to make out any enlargement of the liver; so far as can be determined it has not increased any in size—indeed, if there is any change, it is a little larger than normal. There has never been any ascites capable of detection.

Her general appearance is very much improved since October. There has been no more diarrhea with bloody stools. The bronzed blotches on the forehead are no longer in evidence. She has not menstruated for four months. The uterus, though somewhat enlarged, does not indicate a pregnancy of any such duration. She may possibly be pregnant for a few weeks.

This is the longest period she has ever gone without menstruation. Since her last visit she has taken iron, arsenic and strychnia in pill form. The pills contained:

Blaud's mass	5 gr.
Extract nux vom.	⅓ gr.
Arsen. acid	1/30 gr.

The blood count made February 13, 1905, by Dr. C. F. Hegner, shows:

Reds	4,950,000
Whites	2,600
Hemoglobin	75 per cent.
Large lymphocytes	8 "
Small lymphocytes	22 "
polymorphonuclear	65 "
Eosinophiles	1 "

Osler, in 1902, after a careful study of his own cases, and such others as he could reach by correspondence and in literature, calls this disease *splenic anemia*, and defines it as a chronic affection, probably intoxication of unknown origin, characterized—

First, by progressive enlargement of the spleen which is not correlated with any known cause, as malaria, leukemia, syphilis or cirrhosis of the liver.

Second, anemia of secondary type, or chlorotic type.

Third, a marked tendency to hemorrhage, particularly of the stomach.

Fourth, in many cases a terminal stage with cirrhosis of the liver, jaundice and ascites.

It is probable that a strict compliance with the somewhat confusing literature upon this subject would apply the term *Banti's disease* to the later conditions found in splenic anemia—that is, with cirrhosis of the liver following upon the splenic anemia and hemorrhages.

It is not the purpose here to go deeply into the literature of this condition. It has been so recently presented to you that it is not necessary at this time.

The pathology of the condition is still largely in the stage of investigation and discovery. Etiology is not at all understood. Treatment up to date is wholly unsatisfactory. While there are some comparatively acute cases, chronicity in the clinical histories of these cases is worthy of note. Osler had a case in which the disease had lasted twelve years, and he referred to a case in the experience of another which lasted twenty-five years.

He had concurred in the advice to remove the spleen in several cases. This line of treatment, so far as the history of the condition goes at the present time, is apparently the most promising of all the methods employed.

Osler's original case (No. 5) had recurring hemorrhages for twelve years and enlarged spleen for fourteen years.

Cushing did splenectomy and death resulted from hemorrhage from an esophageal varicosity.

Case No. 4 was living and in fairly good health ten years after hemorrhage began.

Case No. 6 was alive two years after hematemesis.

Case 15 had hemorrhage for nine years.

Case 16 had hemorrhage for five years, enlarged spleen for nine years, when the spleen was removed by Halstead, followed by death.

In Osler's report of twenty-six cases, nine of the twenty-six had hemorrhages extending over long periods. In 1904 Osler reported nine additional cases of enlarged spleen with anemia, making in all thirty-five cases of splenic anemia reported by this author.

Lichty reports a case that died of gastric hemorrhage two years after the spleen had been removed. Such a report as he made bears out the theory of Barr, that the primary cause is not in the spleen, but in the visceral sympathetic ganglia.

The source of blood vomited in these cases is for the most part the mucous membrane of the stomach. In two cases death ensued from varicose conditions of the esophagus.

It is a further fact that no case has recovered from splenectomy and lived as long as many cases whose spleens were not removed. It will doubtless require considerable time yet, therofore, to fully determine the value of splenectomy. The popular opinion up to date is that when cases have reached a stage of vomiting of blood in large quantities, or copious bleeding elsewhere, it is time for removal of the spleen to be advised.

It is generally thought that the presence of the spleen is not absolutely essential to comparatively good health. Whatever may be the function of the spleen, the organ is not indispensable, and its function may, in case of need, be performed by other parts or organs.

Bovaird states that "the changes found in the bone marrow and lymph-nodes after splenectomy suggest that it is these parts that are called upon for extra work, and indicate in this way that the functions of the spleen can be, in part at least, those of the marrow and lymph-nodes."

Ewing states that the "spleen may be removed in healthy subjects without affecting the blood more than in any other laparotomy. The red cells in favorable cases are restored in from one to three months; but in less favorable cases there may be more persistent anemias. The restoration of hemoglobin seems to fall behind the improvement in cells rather more than in most secondary anemia. The operation is usually followed by considerable polynuclear leucocytosis (15,000 to 50,000), which commonly lasts from two to six weeks, but may continue for months, in which case the polynuclear cells may be largely replaced by lymphocyte. Eosinophilia has been observed in a few cases in the second and third year."

This certainly indicates that the removal of the spleen is surely followed by rather profound blood changes outside of and in addition to the ordinary changes following capital surgical procedures.

Sippy tabulated seven splenectomies, to which Harris and Herzog add twelve, making in all nineteen for the condition of splenic anemia. Out of these fourteen recovered and five died. It is said that out of the fourteen recoveries, a majority at least have been completely relieved by splenectomy. This means that seven out of nineteen cases have made apparent cures. In addition to these reports, six cases of splenectomy for splenic anemia, or Banti's disease, have been reported by J. A. Scott, with four recoveries.

Dr. Whitacre's case, reported to this Academy in January, makes a total of twenty-six splenectomies with eight deaths.

I do not claim that this includes all of the cases of splenectomy for splenic anemia. There doubtless have been a number of others, and the presumptive evidence is that the mortality in other reports is as great if not greater than the records here presented.

It would seem, from all that has been said, that the advice to remove the spleen when hemorrhages have begun should be revised, and that splenectomy should not be advised in every case in which hemorrhage has taken place.

The amount of the hemorrhage, the chronicity of the case, the rapidity with which the patient has recovered after hemorrhage, should all be taken into consideration before advising the removal of the spleen.

Personally I am persuaded that even in the face of the fact that all medicinal treatment is without avail, and that recovery has seemed to take place in some cases where splenectomy has been performed, the time which has elapsed since the performance of these operations has not yet been great enough to justify the very serious consideration of operative treatment.

At all events, the progress made by the case presented and reported here certainly indicates that the patient has done well under expectant treatment, and iron and arsenic, and I have no good reason for advising splenectomy.

Therapeutically arsenic has generally been found the most useful remedy. In this case the patient could not take it in very large doses, but, combined with iron, it certainly seems to have been of some service.

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

Meeting of February 13, 1905.

THE PRESIDENT, S. P. KRAMER, M.D.,
IN THE CHAIR.

SAMUEL IGLAUER, M.D., SECRETARY.

DRS. M. L. HEIDINGSFELD and A. J. MARKLEY read a paper (see p. 434) entitled

Some Dermatologic X-Ray Abuses.

DISCUSSION.

DR. W. D. HAINES: We should feel deeply indebted to the doctor for bringing this subject before the Academy in such an interesting manner. Like all new methods of treatment, the X-ray has suffered greatly from claims of the enthusiast, but the light of presentation by the essayist encourages one to believe that this useful agent is beginning to leave the stage of experimentation for one of usefulness; that it will ere long be reclaimed from the over-enthusiastic or pessimistic and be placed on a solid foundation as a therapeutic measure.

Four or five years ago, encouraged by the claims of ray operators, I began the employment of the ray as an after-treatment following the removal of malignant neoplasms. The current medical literature made it incumbent on one to use the X-ray either with or without operation. I submitted a number of cases immediately following operation to this line of after-treatment, sending some of the cases as early as the end of the second week to the ray specialist. Recurrences were frequent, early and seemingly stimulated, and the method was abandoned after one year's trial.

At the meeting of American Medical Association at New Orleans I met the ray man of the Massachusetts General Hospital. He was suffering of carcinosis of the skin covering the hands and forearms, which had been produced by frequent exposure. Both arms were subsequently amputated and finally death from metastases. Here we have an instance wherein the very disease was produced by the agent intended for its relief.

I recall the case of a woman whom I saw in September, 1901, suffering of sarcoma of the breast. Operation was declined and she was referred to Dr. Taylor for ray treatment. Later she fell into the hands of the Philistines and has had more or less constant ray treatment ever since. She consulted me again last month for a large, foul, sloughing ulcer covering the greater area of the breast, with axillary and anterior cervical glandular involvment. Her case certainly accentuates the futility of persistence in ray therapeutics. The treatment, like the pathology of this fell destroyer of human life and happiness, had its origin in the long ago. The one is epithelial, the other iron—"in the shape of a well sharpened piece of steel."

DR. WM. JORDAN TAYLOR: I think we members of the Academy are to be congratulated on having had this opportunity of hearing so interesting and artistic a paper, but I do not feel that Dr. Heidingsfeld is justified in assuming that the cancer appeared on his patient's face because he had been subjected to X-ray treatment. To unqualifiedly condemn this method of treatment seems to me to be a mistake. It certainly has a legitimate place in therapeutics, in a selected class of cases. The doctor's slides are beautiful.

DR. HORACE J. WHITACRE: We are certainly much indebted to Dr. Heidingsfeld for the interesting presentation of this very important subject. I think that we are all a little indefinite as yet in our ideas as to the therapeutic value of the X-ray. I think that the very fact that we have seen on the screen to-night a picture of a patient presented for the demonstration of the inefficacy of X-ray, which has previously been demonstrated by Dr. Heidingsfeld, in evidence of its curative power, shows that ideas are changing on this subject. I realize fully that the previous demonstration of this patient was made for the purpose of showing improvement, not cure, and it is interesting to hear to-night that the X-ray has not cured this case of lupus. I gained the impression that the essayist had little confidence in the cure of superficial cancer of the face by the X-ray. I cannot agree with this statement, and wish to report several cases treated by Dr. Marion Whitacre, my brother, in which he has obtained beautiful results. He has treated the superficial "scaly variety," the small "parchment ulcer" the size of a ten cent piece, the large "cauliflower variety," and some very advanced worm-eaten cancers that have destroyed large amounts of tissue. Beautiful results have certainly been obtained under his treatment. Whether the tumors will recur I cannot state, but they have certainly disappeared.

Objection has been made in the discussion to Dr. Heidingsfeld's conclusion that a cancer was caused in one of his cases by the X-ray. There are at the present time so many reports of such calamities that it seems to me that this danger must not be passed over lightly.

One point has been emphasized in the paper which I wish to second most earnestly. I refer to the treatment of deep cancers by the X-ray specialist. It is a well-demonstrated fact that the X-ray will not influence deep-lying cancers. It seems to me that more serious damage is done by the X-ray specialist in the treatment of early cases of this sort than in most any other way. Surgical statistics show that the woman with carcinoma of the breast may be completely cured in 30 to 50 per cent. of cases by a thorough surgical operation. If seen early enough these statistics may be greatly improved. When an X-ray specialist undertakes the cure of an early cancer by the X-ray he most certainly carries the patient beyond the period of operability and robs her of this 50 per cent. chance for operative cure. This is particularly culpable in view of the fact that the X-ray has not to its credit a single well-demonstrated cure of cancer of the breast. The X-ray has not been accredited to-night for much efficiency in a therapeutic way. I regret that the discussion of its efficiency in other departments does not fall within the limits of this paper. It is certainly one of the most valuable agents we have in the diagnosis and treatment of bone and joint diseases and in the detection of foreign bodies and stones. It is valuable as an inestimable aid in surgical practice, which should not be forgotten to-night while discussing its inefficiency therapeutically.

Dr. Elmore Tauber: I wish to thank the doctor for his specimens, and while we all agree that in the hands of the charlatan the X-ray is naturally a menace, but in the hands of skillful and scientific men, men who watch their technique and make thorough control tests and also observe the dosage and penetrability of the rays, and the length of time the rays are applied, you will find that less disastrous results follow. I think the doctor is a little too hard on lupus. I have had cases in which they were improved more than half way. I have also tried the London lamp and got very little result from the so-called violet rays of this lamp; then going back to the rays have found that the improvement is much more marked and permanent for the most part, and I think you will find that most of the disastrous results reported were in the infancy of the rays. Now that we are getting older in its use we are getting better results, and the technique is being observed more generally, and with shields being brought out that protect the parts from secondary rays, I think the results will be better and better by all careful X-ray specialists.

Dr. Heidingsfeld: I beg to thank the gentlemen for their very kind and generous discussion. In making this demonstration it was my intention merely to give my brief personal impression of the efficacy of photo-therapy, its limitations, shortcomings, and at times deleterious influences in its various phases, and to present a faithful reproduction before and after treatment of the various affections considered by means of lantern slides, so that the members could judge for themselves and form their own personal opinions as to the justice or injustice of the conclusions.

As to the charge that I am possibly too pessimistic towards the X rays, and may later change to their more favorable consideration, I beg to reply that, though I never permitted myself to become a very great enthusiast as regards their therapeutic possibilities, there was a period when I had employed the X-ray scarcely longer than my critic when I was much more favorably impressed with their action as regards the treatment of lupus, epithelioma and a few other affections than at present, and I believe that I am correct and voice the sentiments of my more conservative confrères when I state that the longer we use the X-ray, the less favorable and more skeptical are our impressions regarding its unfailing efficacy in certain directions. I do not wish to be understood that I disparage their entire use, for I believe that they hold an invaluable and almost indispensable place in the treatment of a large class of dermatologic affections. The same speaker states that he has had successful results with his ultra-violet method of treatment. If such is the case, he has accomplished much more than a large number of investigators have been able to attain, for the instrument in question is absolutely inadequate, in both strength and character, being an ultra-violet instrument in no true sense of the word. It is this very instrument which has brought great discredit and injury to the Finsen method of treatment in this country, and nearly all of such instruments are now relegated to the antiquarian. I personally placed the Truax-Green London lamp aside as absolutely inefficacious almost two years ago.

There is no question but that the X-ray acts very favorably upon syphilitic manifestations, and doubtless many cases of epithelioma have been reported cured by the X-ray which could properly be classed with the syphilides. Several such cases have come under my personal observation, which were partially cured by the ray, and which bore distinctive clinical characteristics and yielded promptly to mercurials and iodides.

The X-ray is specially indicated for unfavorably located and well-advanced forms of epithelioma, but, on the whole, the knife or well-adapted pastes are more prompt, reliable and generally much more preferable. The case of lupus mentioned by Dr. Whitacre was presented to the Academy as materially benefited by the X-ray; it was probably not more than half cured, and failed later, as noted in the paper, to show the slightest further improvement under that method of treatment. This experience has not been uncommon in my practice, and I can note a number of cases that in the beginning were materially benefited, and later were markedly irritated and unfavorably influenced by the X-ray therapy.

I do not believe that differences in results are due to a difference in technique, and that one individual can claim superior advantages on purely technical grounds. I believe that the X-ray, when fairly abundantly produced, by a good reliable apparatus, when accompanied with a fair degree of attention relative to the hardness and softness of the tube, focal distance, and idiosyncrasy of the patient, to meet the special requirements is one and the same, irrespective of the operator and special methods. I have referred cases which were attended by failure at my hands to other X-ray specialists, whom I believed possibly more successful and experienced, without noting any material difference. Some cases voluntarily withdrew, and others, again, had received previous X-ray attention with identically the same results. This has become such a common experience that when a patient comes to me with the statement that a fair degree of X-ray attention has been previously administered with negative results, no personal X-ray attention is attempted. Its application is so purely mechanical, and its administration is so well and generally so clearly understood by almost every quack and tyro, that an assumed superior technique counts for little or nothing. I believe that the quack exercises the same degree of skill, avoids burns and unfavorable complications, and meets with the same degree of success as the experienced diagnostician, as far as the mere application of the ray in an individual case is considered.

The chief object in giving this demonstration was to call attention to the fact that the X-ray possessed dangerous possibilities; that, though its moderate and careful use was often attended with much benefit in appropriate cases, it possessed decided limitations and shortcommings in others, and unquestionably can pave the way to a malignant process. With this danger in mind it should be employed with some reservation, and the time is probably too immature to determine for the present whether or not its present unrestricted use will not result in future unfortunate and distressing complications.

Dr. Markley: I have little or nothing further to add to what Dr. Heidingsfeld has so definitely and thoroughly said in his demonstration and discussion, but I can most decidedly confirm his statements and say that I agree with his views on this subject.

Dr. Taylor seems to believe, from his remarks, that the X-ray has no tendency to cause malignant disease, but because of a close observation of quite a large number of cases I must disagree with him and say that X-ray burns have shown a very decided trend toward epitheliomatous involvement, and in several cases the clinical evidence of this tendency has been confirmed histologically. The opportunity of seeing a large number of cases under treatment has also convinced me of the relative inefficiency of the X-ray in many of the conditions for which it has been most highly recommended.

Editorial.

MARK A. BROWN, M.D., Editor.

CINCINNATI, SATURDAY, APRIL 15, 1905.

A WELL-MERITED PROMOTION.

The announcement of the election of Dr. Lewellys F. Barker to the professorship of medicine at Johns Hopkins University, just vacated by the talented Osler, will be received with particular satisfaction by the younger medical men of the United States who, like Barker, have been engaged in scientific medical research. His promotion to this, the most-to-be-desired chair of internal medicine in America, comes to Barker as a well-merited recognition of a splendid preparatory career, embracing a very industrious and fruitful devotion to several lines of pure medical science. With these preliminary qualifications his success in medical pedagogy, and with original ideas for improving the teaching of medicine, it is safe to predict that this department at Johns Hopkins will sustain its old reputation and win new laurels.

Lewellys Franklin Barker will not come as a stranger to Johns Hopkins or to Johns Hopkins methods. Born in Norwich, Ontario, Canada, in 1867, he was an M.B., University of Toronto, 1890; licentiate College of Physicians and Surgeons of Ontario, 1890; house officer, Toronto General Hospital, 1890–91. Following this he occupied various positions at Johns Hopkins, with intervals in Europe and the Philippines until 1900, when he was called to Rush Medical College, at Chicago, as professor and head of the department of anatomy, which position he has held ever since. While much of Prof. Barker's work of late years has been in the anatomical field, apparently fitting him for the surgical arena, he has never forsaken his old love of internal medicine, as most of his valuable contributions to medical literature fully show.

In congratulating Dr. Barker, it must not be forgotten that there is another appointee to Johns Hopkins entitled to equal praise, William Sydney Thayer, the new professor of clinical medicine. Dr. Thayer is a native of Massachusetts, A.B., Harvard, 1885; M.D., Harvard, 1889. He served as resident physician to Johns Hopkins Hospital from 1891 to 1898; was appointed associate in medicine to Johns Hopkins University in 1895, and promoted to associate professor in 1897. Thayer's work has been strictly in the line of internal medicine, his most important contributions, in which he was associated with Hewetson, having been in relation to the malarial parasites. The Thayer and Hewetson monograph on this disease will always be a lasting monument to the distinguished authors, and a piece of research work of which American physicians will always speak with pride.

In these appointments we can see the friendly hand of their former teacher, Professor William Osler, and in wishing the latter all success in his new field, we cannot but congratulate the Board of Trustees of Johns Hopkins in their wise selection of worthy successors.

ETIOLOGY OF PERNICIOUS ANEMIA.

For many years clinicians have discussed the mooted question whether there exists such a disease as primary or idiopathic anemia, arising *de novo* in the various blood-forming organs of the body. Many have advanced the view that there is always a prior cause, though often so obscure as to defy detection. If this view is correct, and there are many facts lending to its support, then pernicious anemia is a secondary anemia, and the qualifying terms "primary" and "idiopathic" should be eliminated. From the standpoint of therapy, indeed, these terms should be dispensed with, as they necessarily imbue all but the most careful clinicians with the idea that the cause of the disease is unknown, and hence there is no effort made in the individual case to discover any possible etiological factor. In a review of the literature of undoubted cases of pernicious anemia, we are impressed with the fact that the only cases that have recovered are those in which a probable underlying cause was found and eliminated.

Among the various factors assigned an etiological rôle in this disease, intestinal parasites, particularly the *Dibothriocephalus latus*, have been the most important. In 1886, Reyher reported thirteen cases of pernicious anemia, all due to this parasite and all cured on the removal of the worm. Scattering cases have appeared in the literature since then, notably the seven of Schapiro, while recently the reports of Meyer and Gilman Thompson[1] have attracted merited attention. A brief review of the latter's case, as being absolutely typical, follows: The patient was a boy of seventeen, a native of Finland, with no personal history of any importance until about seven months previous to his admission to the hospital, when he first noticed a pallor of complexion which steadily incresed. A month following this initial symptom, repeated attacks of more or less severe attacks of epistaxis began to supervene, which continued up the time of his admission to the house. His other symptoms were those of an anemia of high grade, and in addition the pale lemon color of skin so characteristic of pernicious anemia. Though stating that he had lost thirty pounds in weight, he appeared to be well nourished. He had been passing segments of tapeworm for several years. An examination of the nasal cavities revealed no cause for the epistaxis. The examination of the blood was typical of pernicious anemia of high grade: 608,000 red cells, hemoglobin 20 per cent., making a color index of 1.6; pronounced leucopenia, the white cells numbering but 2,000; presence of macrocytes, normoblasts and megaloblasts. While the severe and frequent nasal hemorrhages certainly accounted for a great portion of the anemia present, from the peculiar character of the differential count and the high color index, the case could not be classed with the so-called "secondary" anemias. A few days following the boy's admission to the hospital, the ova of the *Dibothriocephalus latus* were found in the stools. With careful treatment by means of anthelmintics, together with iron and arsenic, the patient began to steadily improve so that at the end of seven months he was regarded as practically well. The red cells at this latter period numbered 5,980,000 and the whites 10,000; the hemoglobin was about 98 per cent., so that the color index was somewhat under the normal line, a rather favorable indication.

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[1] N. Y. Med. Journal, April 8, 1905.

The cases of Meyer were somewhat similar, dependent apparently upon the same parasite, though not quite so characteristic as regards symptomatology. A similar plan of treatment resulted in rapid improvement. These three cases are of great interest to the clinician, in that they form a distinct type of pernicious anemia, that with an associated definite etiology. Having found at least one possible cause for the disease, clinicians will now be more on their guard, and we may hope that in the future more thorough investigations will reveal other facts in the etiology of this obscure affection.

EDITORIAL NOTES.

The *New Idea* of this month devotes most of its pages to a commemoration of the fiftieth anniversary of the founding of the house of Frederick Stearns & Co.

Dr. Charles W. Edmunds, of Ann Arbor, will take Cushny's place in charge of the department of materia medica and therapeutics for the balance of this teaching year.

The Ohio State Pediatric Society will hold its next annual meeting at Columbus, May 9, 1905. This is the tenth anniversary of this organization, and its members will celebrate the occasion in a way that is fitting to the event. This is said to be the largest organization of the kind in the world.

It is with a sense of personal sorrow that we announce the sudden death of Col. Andrew Bain, pharmacist to the Cincinnati Hospital. Col. Bain's illness, a sudden attack of pneumonia, was a short one, lasting but two days. His untimely death will be greatly mourned by a host of practicing physicians, ex-internes to the City Hospital, with whom he was a great favorite during his eighteen years of service.

Report of the Bureau of Infectious and Contagious Diseases for the week ending April 7, 1905:

Disease.	Cases.	Deaths.
Measles	6	0
Diphtheria	4	0
Scarlet Fever	26	3
Typhoid Fever	16	1
Phthisis Pulmonalis	6	21
Pertussis	17	0
Varicella	4	0
Smallpox	6	0
Cerebro-spinal Meningitis	12	7

At the Academy of Medicine of Cincinnati, Monday evening, April 17, a symposium on typhoid fever will be presented: "Pathology," Dr. J. E. Greiwe; "Clinical History," Dr. Elizabeth Campbell; "Medical Treatment," Dr. John Landis; "Surgical Treatment," Dr. N. P. Dandridge.

American Proctologic Society.—The seventh annual meeting will be held at Pittsburgh, Pa., May 5 and 6, 1905. Place of meeting, Hotel Henry, Fifth avenue, near Smithfield street. The profession is cordially invited to attend all meetings. The programme is as follows:

FRIDAY, MAY 5.

Executive council meets at 9 A. M.
Call to order by the President, 10 A. M.
Reading of the minutes.
Treasurer's report.
Report of executive council.
Report of committees.
Unfinished business.
New business.
Annual Address of the President. J. R. Pennington, M.D., Chicago.

1. Malignant Disease of the Rectum and its Treatment. G. B. Evans, M.D., Dayton.
2. The Ambulant Treatment of Internal Hemorrhoids. C. F. Martin, M.D., Philadelphia.
3. Is Fissure of the Os Uteri Analogous to Anal Fissure? The Symtomatology, etc., of the Former, with a Consideration of it as a Cause of

Sterility. William Bodenhamer, M.D., New Rochelle, N. Y.

4. Instrumental Massage in the Treatment of Acquired Valvular Hypertrophy (Obstipation). T. C. Martin, M.D., Cleveland,
5. A Report of Cases. Leon Straus, M.D., St. Louis.
6. Urethro-rectal Fistula, with Report of a Case. W. M. Beach, M.D., Pittsburgh.
7. Tubercular Fistulas of the Rectum, and the Repair of Extensive Injuries of the Bowel Following Same. Howard A. Kelly, M.D., Baltimore.
8. The Operative Treatment of Tubercular Fistulas in Tuberculous Subjects, with Report of a Case. J. Coles Brick, M.D., Philadelphia.
9. Formalin in the Treatment of Diseases of the Rectum, Sigmoid, and Colon. John L. Jelks, M.D., Memphis.
10. A Further Contribution to the Study of Pruritus Ani, with Special Reference to Local Treatment. Lewis H. Adler, Jr., M.D., Philadelphia.
11. Profound Secondary Anemia Due to Rectal Diseases; Report of Six Cases. D. H. Murray, M.D., Syracuse.
12. Personal Experience in the Employment of Mechanical Vibration in the Treatment of Rectal Diseases. William M. Dickinson, M.D., Saginaw.
13. The Office Treatment of Rectal Diseases and its Limitations. James P. Tuttle, M.D.' New York.
14. Two Cases of Imperforate Anus. T. L. Hazzard, M.D., Pittsburgh.
15. Amebic Dysentery: Report of Recent Investigations in its Treatment. Samuel T. Earle, M.D., Baltimore.
16. Artificial Anus: Practical Suggestions Regarding its Making and Closing. S. G. Gant, M.D., New York.
17. The Pathology of External Hemorrhoids. Louis J. Krouse, M.D., Cincinnati.
18. The Treatment of Rectal Prolapse. A. Tierlinck, M.D., Gand, Belgium.
19. A Summary of Twenty Radical Operations upon the Rectum Under Local (Sterile-water) Anesthesia. A. B. Cooke, M.D., Nashville.

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Multiple Joint Disease in a Child.

White (*British Medical Journal*, February 25, 1905) reports a clinical lecture upon a case illustrating a joint disease which has been described by Dr. Still. This disease is one which occurs in small children and is not of a rheumatic nature. The disease is defined as a chronic progressive enlargement of joints associated with a general enlargement of the glands and spleen. The onset is insidious and almost always occurs before the second dentition, the patient in this instance being three years of age. The child complained of stiffness in the joints, which became slowly enlarged and subsequently other joints became affected. In character the enlargement of the joints feels and looks more like a general thickening of tissues around the joint than a bony enlargement. The enlargement is smooth and fusiform, but there is none of the bony irregularity of osteo-arthritis. The absence of osteal growth and anything like bone lipping, even after years have elapsed, is very striking. There is never any bony grating, although creaking of tendons is frequently present. The absence of pain is very striking, and limitation of movement—chiefly of extension—is almost always present. The child may be completely bedridden, owing to the affection of the joints. In Still's cases, and in the case reported, the earliest joints affected were the knees; subsequently the wrists, the cervical spine, the ankles, the ribs, and the fingers. The affection is symmetrical. There is no tendency to suppuration or ankylosis. The muscles which move the joints show early chronic wasting. The enlargement of lymphatic glands is one of the most distinctive features. The enlargement is general, but affects primarily and chiefly those related to the joint affected. The glands are separate, rather hard than soft, and not tender, and show no tendency to break down. Enlargement of the spleen is also present in this as in Still's cases. In post-mortem examination Still has found the cartilage of the joints perfectly normal. No fibrillation, no osteophytic change, no exposure or eburnation of bone.

After pointing out the undoubted classification of his case with those of Dr.

Still, he proceeds to discuss the differential diagnosis, and considers rheumatic fever, syphilis, tuberculosis and gonorrhea. Particular attention is called to the fact that the rheumatic state in children is different from that in adults; that is to say, a disease with sweating and pain flying about from joint to joint, with some swelling of the joints and fever, is very rarely seen in children. Among the rheumatic conditions found in children, endocarditis, chorea, subcutaneous rheumatic nodules, erythema, and tonsillitis are considered to be most important. H. J. W.

J. A. THOMPSON, M.D. W. E. MURPHY, M.D.

Laryngology and Rhinology.

Case of Cicatricial Stricture of the Esophagus.

Athérton (*Medical Record*, March 11) describes a case of stricture of the lower end of the esophagus, the result of swallowing some lye. At first a French olive-pointed bougie two millimeters in diameter only could be passed. By manipulation only two more millimeters was obtained. No further stretching could be effected, and the stomach was opened and dilatation effected by the use of the string and bougie, until a bougie one centimeter in diameter could be passed. To prevent the stricture contracting again a soft rubber bougie one centimeter in diameter was worn constantly. The upper end of the bougie rested in the lower part of the pharynx and was secured by a silk fastened to a tooth or to the ear. After the lapse of one year the patient is compelled to still wear the bougie, or the stricture will soon close up. W. E. M.

Foreign Bodies in the Esophagus of Children.

Bérard and Leriche (*Semaine Medicale*, February 8) discuss what is the best procedure when foreign bodies become lodged in the esophagus of children. Extraction with the forceps by the natural route is permissible only when the object can be reached with the finger, and when it is possible to do the work with the use of the laryngeal mirror. The object should never be pushed down into the stomach unless it is soft and small, and can be acted upon by the gastric juices without causing poisoning. The Graefe extractor should never be used, as fatal accidents have occurred following its use. The esophagoscope should always be used when in reach, but otherwise external esophagotomy is the least dangerous, always bearing in mind that a foreign body in the esophagus of a child is usually lodged just behind and a little above the notch of the sternum. Broncho-pneumonia has frequently followed this operation in cases reported, but this is due to the pre-existing inflammation set up by the foreign body, and can be prevented by early intervention. W. E. M.

Extirpation of Neoplasms in the Tonsils.

Preindlsberger, of Vienna, reports a case of neoplasm of the tonsil which he removed by obtaining access to the pharynx from without, by removing about half of the width of the lower jaw at the angle. The base of the triangle extended high up on the ramus, and almost to the teeth on the horizontal part. This greatly facilitated the pharyngotomy from the side, and did not interfere with the movements of the jaw afterward. W. E. M.

Post-Operative Nasal Hemorrhage.

Wilcox (*American Medicine*, March 18) reports a case of secondary hemorrhage following the removal of a part of a middle turbinate and a small spur from the septum, under cocaine and adrenalin chloride. The hemorrhage came on four days after the operation and continued six days, in spite of all treatment. The patient was given forty grains of calcium chloride daily. He considers the administration of this remedy a very important factor in the treatment of these cases, and credits the calcium chloride with the successful result in this case. W. E. M.

External Cervical Esophagotomy for Foreign Bodies.

Since the year 1738 there has been reported 320 cases of this kind. The age ranges from six months to one hundred years. The most frequent objects swallowed were false teeth, bones and coins.

Of the 55 cases reported in the last three years the mortality has been 12.6 per cent. The mortality from bones and stones was much greater than from coins. Deaths were most always due to injuries resulting from the long-continued presence of the foreign body in the esophagus.

W. E. M.

Osteoplastic Operations on Frontal Sinuses for Chronic Suppuration.

Hoffman (*Annals of Otology, Rhinology and Laryngology*, December) advises the osteoplastic method of treating all cases of chronic suppuration of the frontal sinuses when the bony wall is not involved. It allows of a free examination of the sinuses, and the treatment of the ethmoids can be carried out, all diseased tissue can be destroyed, and the cosmetic result is good. Care must be taken in replacing the flap of bone that the parts are perfectly approximated, this to insure a good cosmetic result and to leave no recesses that may delay healing. The channel between the unobliterated cavity and the nose must be a large one to allow of free drainage, and thus aid in the healing process and prevent the danger of reinfection.

W. E. M.

Dermatology and Genito-Urinary Diseases.

M. L. HEIDINGSFELD, M.D.

Acquired Venereal Syphilis in a Six-year-old Boy.

Lydston (*New York Medical Journal*, October, 1904) reports a typical case of freshly venereally acquired syphilis in a boy of six, showing initial lesion on penis, general glandular adenopathy, roseola, mucous plaques, etc., who professed to have sustained sexual relations with a girl of nine years, who, upon examination, showed the presence of moist syphilitic papules about the vulva.

Psoriasis Vulgaris.

Hirsch (*Dermatolog. Centralbl.*, December, 1904) gives a statistical report upon 1,836 cases of psoriasis observed from 1899 to 1904 in the polyclinic of Max Joseph, Berlin. The number for each year was fairly constant, and the number of males was 1,576, females 260. Only nine cases under six years of age were observed, and its oldest patient was seventy-two years old. The disease seemed to be uninfluenced by season, and butchers and bakers seemed somewhat predisposed.

Cutaneous Absorption of Iodine and Potassium Iodide Salves.

Hirschfeld and Pollio (*Arch. f. Derm. u. Syph.*, Vol. 72, 1904) have demonstrated that potassium iodide, when added to vaseline in 5 to 50 per cent., is readily absorbed when applied to the skin if allowed to remain for several days. The urine gives a prompt reaction to iodine, and the quantitative analysis was very satisfactory.

Vesical Calculi.

Milton (*Lancet*, October, 1904) reports 159 cases of vesical calculi, each over one and a half ounces in weight, in the British naval service in Egypt, and shows that lithotripsy can be successfully performed on much larger calculi than is commonly credited. Urethral lithotripsy was performed in 84 cases, with a mortality of 5.9 per cent. Rectal lithotripsy was performed 47 times, with a mortality of 14.9 per cent. Suprapubic cystotomy was performed 22 times, with a mortality of 36.3 per cent., and lateral lithotomy 6 times without a death. The largest single specimen was removed by a suprapubic incision, and weighed over twelve ounces, and the fragments of one removed by combined lateral lithotomy and lithotripsy weighed over fourteen ounces.

Circumcision and Prevention of Syphilis.

Loeb (*Monatsch. f. Harnk. u. sex. Hyg.*, Vol. 1, No. 6) reports from 2,000 uncircumcised and 408 circumcised patients under his personal observation, 785, or 39 per cent., of chancres und syphilis among the uncircumcised, against 71, or 15 per cent., among those circumcised. He deduces from this that circumcision, if generally practiced, would ultimately reduce the amount of syphilis over 50 per cent.

The Lancet-Clinic

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NEW SERIES VOL. LIV. APRIL 22, 1905. WHOLE VOLUME LXXXXIII.

TRAUMATIC TETANUS.*

BY ROBERT CAROTHERS, M.D.,
CINCINNATI.

I have no intention of writing a paper on the subject of tetanus. I am satisfied to report several cases, each of more or less interest, and hope, thereby, to stimulate the Academy to a free discussion of the subject, resulting in profit to all. Several of these cases are now old, reported from indifferent notes and memory, which prompts me to ask you to be lenient if they are not as complete as they otherwise might be.

CASE I.

A robust, healthy carpenter stepped on a nail in June, 1897. The punctured wound it caused was not painful or troublesome; except with some "home remedies" it was untreated, and the patient continued at work until the third day, when he became uneasy for fear of lockjaw, and consulted Dr. W. J. Thomasson, of Newport, who opened the wound, then sealed, let out a few drops of serum, and treated it antiseptically as an open wound. On the seventh day the first symptoms appeared in an inability to open the mouth. At this time Dr. Thomasson requested me to be with him in the case.

The prominent symptoms in this case were: Low fever; only slightly increased pulse-rate and respirations; very pronounced contraction of muscles, commencing in the muscles of the neck and head and extending thence to the muscles of the entire body; and very severe spasmodic contractions of muscles, caused by the least irritation; a step on the floor or whispered voice would cause a spasm. The mind was clear up to the end. Death occurred on the morning of the seventh day, fourteen days after the receipt of injury, invasion of the respiratory muscles and exhaustion being the immediate cause.

The treatment instituted was everything, from bromide to chloroform, which might be thought to be of any benefit, including large doses of morphia and chloral. It seemed nothing produced any appreciable effect except chloroform.

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* Read before the Academy of Medicine of Cincinnati, March 20, 1905.

CASE II.

Robust man of forty, was injured in June, 1899, by heavy lithograph stone falling on his foot while at work in the Russell & Morgan establishment. He was immediately removed to the Good Samaritan Hospital, where, upon examination by myself, he was found to have a compound comminuted fracture of the injured foot, with considerable contusion and laceration of the soft parts. His foot was very dirty by reason of a long vacation from the use of soap and water, and not from contact with earth or dirt at time of accident. It was considered advisable and practical to attempt to save the foot by appropriate treatment, such as thorough cleansing, repair of soft parts, apposition of fractured bones, drainage, antiseptic dressing and immobilization with plaster-of-paris bandage. Everything went well until the third day, when there developed a violent case of tetanus, with all the typical signs and symptoms in a marked degree. On the first day 30 c.c. of antitetanic serum was administered subcutaneously with no beneficial effect; the second day was given over to the use of morphia and chloral, with equally as disappointing results; on the third day a consultation was requested by the man's family, Dr. Geo. B. Orr being the consultant. It was decided that an amputation of the foot be done, and the patient was prepared for immediate operation. The amputation, with ether anesthesia, was performed with all possible speed, and the patient died about one hour after he was returned to his room.

This would seem to have been one of those rapid and fatal cases in which no treatment would have been followed by anything but a fatal result, except possibly an amputation of the foot very soon after the accident had occurred. Like the old saying, "it is easier to look backward than forward."

CASE III.

Well-developed and healthy twelve-year-old school-boy, on October 3, 1903, fell from a train into a cinder bank or fill, sustaining a Colles' fracture of right forearm and slight skin wounds, not communicating with fractures, but coming in contact with the cinders and earth. No other wound to be found. The injury received appropriate and proper treatment from a neighboring doctor at Carthage. Later, on October 5, two days after the accident, a rapidly spreading moist gangrene occurred, and the boy was removed to the Good Samaritan Hospital for further treatment. I made a shoulder-joint amputation during that night, the gangrene at that time having advanced about half way above the elbow. The patient recovered from the operative shock and all looked well until the night of October 7, when tetanus, with severe and violent symptoms, was manifest. Three doses of 10 c.c. each of antitetanic serum were given subcutaneously during the day of October 8, the first day of the disease. The first dose seemed to be followed by some benefit; the second and third doses none. One-drop doses of carbolic acid were given at intervals until ten drops had been used. The acid was given diluted, with a hypodermic syringe, subcutaneously; neither good nor bad effects were derived from its use. Morphia and chloral were freely used with very slight benefit. Chloroform, which was used toward the end, relieved both the tonic and clonic spasms. Patient died October 10, seven days after receipt of the injury and in the third day of the disease.

Another hopeless case from the beginning. It was interesting to note that during his attack of tetanus and up to the end union was rapidly progressing in the amputation flap, without infection, and I think, within another day or two, had he lived, there would have been union by first intention.

CASE IV.

Housewife, about thirty years of who had previously been in fairly health, on October 30, 1904, compl of lassitude, slight stiffness of musc neck and frequent desire to yawn. days later, the condition not imp she called her usual medical atten Dr. Carolyn Zimmerman, of New Ky. At this time there was noth the woman's past history, such as to cause the doctor to suspect tetanus she was aware that her patient had thing in the nature of a blood poi and treated the case accordingly. sible abortion, some weeks pr induced the doctor to do a cur thinking a retained infected membrane might be at the bottom of her trouble. The curettage was done on the fourth day and the uterus found to be clean and healthy. From this time on the patient gradually grew worse, with an occasional day, however, when she would be comparatively free from symptoms and eat ravenously. By the sixth or seventh day the tonic contraction of muscles was pronounced, so that a diagnosis of tetanus could be made and appropriate treatment instituted. It was then discovered that eleven days prior to the onset of the first symptoms she had scratched one of her thumbs with her dog's collar, but as the wound was small, painless and rapidly healed, it had not attracted much attention at the time, not thought to be serious, and was soon forgotten. On the eleventh day of the disease I saw her in consultation with the doctor, finding her to be in a pronounced state of tonic spasms, affecting muscles of head, neck, abdomen and extremities; intellect clear, no rise of temperature, and normal pulse. There was not, at this time, clonic spasms. She was given 40 c.c. of antitetanic serum on the twelfth day, with some benefit, and chloral and cannabis indica for spasms, also with some beneficial effect, evidenced by a few days of comparative relief from symptoms; soon, however, to relapse into the same tetanic condition, and died on the twenty-first day of the disease from spasm of respiratory muscles and exhaustion.

I report this case by permission of Dr. Zimmerman, as a typical illustration of the so-called chronic tetanus.

CASE V.

Fourteen-year-old school-boy, a specimen of perfect health and physique. On November 29, 1904, while playing "Indian" with some playmates, he was struck over the right eye with the point of a horse weed which was being thrown as a spear or lance. The wound produced was little more than an abrasion of the skin, and received most excellent antiseptic treatment by Dr. W. J. Thomasson, of Newport. Late the same day the boy went into a condition of extreme shock, stupor and vomiting, pulse rapid and small, swelling and discoloration of the eye, but no elevation of temperature or impairment of the sight of the eye. He recovered from the acute symptoms of shock by the following day, but remained in a condition of more or less weakness and prostration. On the fourth day the eye was drawn to the inside and there was thought to be some stiffness of the muscles about the mouth. On the fifth day pus was suspected behind the eye, and on the sixth day the same was removed by an incision made by Dr. Tangeman, followed by cleansing and drainage. In the evening of the seventh day I saw the patient and was taken into the case. Tetanus of a violent and severe type was then present, evidenced by pronounced tonic spasm of all muscles, especially of the jaw. Intellect clear, no fever, pulse thin and rapid. Twenty c.c. of antitetanic serum subcutaneously was at once given, and on the following morning the patient was removed to the Good Samaritan Hospital. Forty c.c. of antitetanic serum was given on the eighth day in two doses, also spinal cocaine anesthesia induced, which had the effect of relaxing the muscles below the point of anesthesia—the lumbar region—lasting for some eight or ten hours, but no effect on the muscles in the upper portion of the body. On the following day the antitetanic serum was continued, about 80 c.c. being given in all, but from the start there was not to be seen the least beneficial effect. Patient died on the morning of the tenth day after the receipt of the injury, and on the fifth or sixth day after the first symptoms of the disease.

Now that a definite cause is known, a typical train of symptoms in the vast majority of cases making the diagnosis sure, and that the prognosis in nearly all cases is so hopelessly bad, the medical mind is practically centered on the treatment of this unfortunate and grave disease.

By far the best treatment is preventative. All accidental flesh wounds, especially those coming in contact with earth, and more especially punctured, contused and lacerated wounds, should receive the most careful cleansing, exposure to the air, and drainage. An immunizing dose of antitetanic serum of 10 or 20 c.c. is advocated in cases of injury where a tetanus might be expected to follow.

About one year ago I was called to see a business man who had accidentally punctured his foot by stepping on a rusty nail. At the time I arrived, the wound, then about one hour old, had closed. The nail which had caused the puncture and was preserved by the patient was, on inspection, found to be roughened by rust and had some earth clinging to it. I made a free incision into the wound, laying it wide open to the very bottom, encouraging bleeding and permitting an ingress of air. Cleansing with peroxide of hydrogen and water was vigorously instituted, the wound was then kept open by packing with gauze and allowed to heal from the bottom. On the same day 10 c.c. of antitetanic serum was given subcutaneously, the small dose thought to be necessary at this time. The patient did not have tetanus.

When the disease is established treatment resolves itself into two things—eradicate or destroy the poison in the system, and allay symptoms. For the former, at present, there are two things attracting our attention, especially the antitetanic serum and also carbolic acid.

The antitetanic serum of Tizzoni and Cantani is obtained from the serum of immunized dogs by treatment with alcohol. It is preserved for use by the addition of a small proportion of carbolic acid, which is probably what has led up to the use of this drug, in itself, for the treatment of tetanus. The Behring serum is practically the same as the Tizzoni, except that usage has demonstrated its greater strength, which probably lies in the difference in the manufacture, known only to the manufacturers. Its use in the vast majority of cases has proven most unsatisfactory; that this is due to a faulty technique in its use is undoubtedly true in many cases, since in the hands of the experienced—and that, too, in the presence of most violent cases—we have reports of success which give encouragement for further trials, especially in the absence of a better remedy.

There are a certain class of severe cases originating soon after the introduction of the poison, in which it or any other treatment would seem to be followed by no success. On the other hand, there are cases in which the first symptoms are present many days or several weeks after the introduction of the poison, which almost universally get well even though the serum be not used. It is in the cases, which occupy a position midway between the class above given, in which we may hope to do some good by its use.

Like all serum therapy, the sooner its use is commenced the better, the dose to be governed by the severity of the case. I am inclined to think we give too small a dose. Mixter, of Boston, reports one severe case in which 500 c.c. was used and the case got well. The localities for its administration are subcutaneous, intravenous, subdural, and intra-cerebral. Of the four localities, I much prefer the two former, on account of the lessened danger and the much lessened disturbance to the patient.

The carbolic-acid treatment is favored by many, and thought to be superior to the serum in antagonizing the toxin and quieting the nervous system. Some hopeful reports come from its use. It should always be given hypodermically, and in large enough doses, two to twenty drops in the twenty-four hours. One successful case under Dr. Conner's care in the Good Samaritan Hospital was treated in this way.

The general treatment of symptoms is quite important. Absolute rest and quietude should be secured for the patient, something, in these days of injecjections, which I fear is being neglected. Of the drugs chloral and chloroform I think are the best, although many other of a similar nature in action are recommended.

Ice to the spine, bleeding and galvanism I merely mention, not having had experience with any.

During this time the original wound will need care and attention, in the way of cleansing, curetting, or possibly even amputation, the latter being rarely resorted to. At times the original wound will be found healed and lost sight of by the time symptoms appear.

(For discussion see p. 469.)

Gonosan in Gonorrhea.

Kornfeld (*Ther. d. Gegenw.*, No. 8, 1904) reports that gonosan is the best of all remedies for internal administration in the treatment of gonorrhea. It promptly diminishes pain, attenuates the gonococci, and does not distress the stomach. When promptly administered an acute anterior infection never becomes a posterior one. H.

ECTOPIC PREGNANCY.*

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Frequent deaths from preventable causes attest our lack of strength, our ignorance or our want of opportunity, *i.e.*, lack of strength to act upon our convictions, our ignorance of obscure or unusual pathology or our want of the opportunity to investigate at the right time and in the right way.

Deaths from ectopic gestation are properly to be considered preventable, and so far as a discussion of the subject may serve to develop confidence in our ability to diagnosticate it early and give courage to act upon that diagnosis, it will be fruitful.

Much that is of real value in our work depends upon the coöperation of the laity. This, in turn, depends almost entirely upon education and our ability to inspire confidence.

If we expect to make progress in this we must work out a plan of action and then teach our patients the importance of thoroughness, promptness and eternal vigilance.

The death-rate from appendicitis has rapidly grown less, but not until the profession had come to know its gravity and to be able to positively recognize it.

In ectopic pregnancy the death-rate should be lower than in appendicitis, providing we get the cases before rupture. We will only get them thus early after we teach the profession that it is a duty to make a diagnosis before rupture, and to do this we must educate the laymen to the importance not only of ectopic, but of all pregnancies.

The first great barrier which must be torn down is that of prejudice and superstition, which has been built about women as a sign of chastity, viz., the repugnance to proper and thorough examination.

We must recognize and teach that:

1. No greater disaster can overtake a woman than tubal pregnancy.

2. That no woman who is or who has been the victim of tubal disease is safe from ectopic pregnancy when pregnancy is made possible.

3. That menstrual pain and menstrual irregularities are in the majority of cases the result of conditions which, if not primarily, do secondarily involve the tubes; hence,

4. The importance of searching out pelvic disease and teaching women the importance of thorough, careful investigation of all pelvic symptoms.

5. Pre-menstrual pain is nearly if not quite always indicative of tubal disease, and all patients so suffering should be warned of the dangers of ectopic pregnancy and instructed to have careful examination on the development of even slight unusual symptoms if there be even a possibility of pregnancy.

6. We should keep in mind that in ectopic pregnancy there is no possibility of a natural termination.

7. Rupture with serious or fatal hemorrhage occurs before the eighth or ninth week, as a rule.

8. In cases of rupture in which fatal hemorrhage does not follow, peritonitis and fatal septic infection ensue rapidly.

9. Operation before rupture is comparatively free from great risk, while operation after rupture is a most serious undertaking.

10. After rupture has occurred there may be no positive information obtained by a vaginal examination, the evidence of serious hemorrhage being the only clearly defined symptom.

11. No reliance can be placed upon menstrual cessation, as in practically all these cases there is no history of a missed period. On the other hand, a prolonged flow is common.

The diagnosis of tubal pregnancy before rupture can be made with as much or greater certainty than can a normal pregnancy before the third month. The fact that a tubal pregnancy goes on to rupture is a reproach to obstetric practice. First, because of indifference or carelessness which prevents proper investigation of the case early; this may be on the part of the patient, or it may be the physician, but the real fault lies in the indifference to obstetrics which has permitted women to look upon pregnancy as a simple matter and not one demanding the attention of skilled service except in complicated labors.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11–13, 1904.

Faulty teaching in regard to the symptomatology of extra-uterine pregnancy is doubtless responsible for many failures to diagnosticate early, and also for the opinion that the diagnosis could not readily be made prior to rupture. Many of the misconceptions are probably due to the unwillingness to look upon menstrual pain or menstrual irregularity as symptoms of the importance they merit, and a failure to recognize the very great importance of arrested tubal peristalsis, or of infiltration of peritoneal coat of the tube from inflammation, with the production of constricting bands, kinks or adherent hoops of the tube.

The teaching that there is no early symptomatology is wrong. The symptomatology is much more positive than is that of typhoid fever in its early stages.

Only a short time ago a very prominent teacher said in discussing this question: "That in early extra-uterine pregnancy the pulse and temperature were always normal, there was no pain, no soreness—in fact, no symptoms. That the only diagnostic signs were a rapidly increasing pulse following a sharp pain and faintness, with a subnormal or normal temperature," etc. This teaching is wrong except for cases which have ruptured. In ectopic pregnancy before rupture the picture is very different. There is *early marked* uneasiness, usually amounting to decided pain and soreness in the region of the affected tube. There is always some oozing from fimbriated end of the tube prior to its occlusion, and consequently there is some, although slight, elevation in temperature, while the pulse is little changed. There is very early some localized peritonitis. There is always a hypersensitive cervix. In many of the patients there seems to be an indefinable dread of impending disaster. There may seem to be only an exaggeration of the menstrual suffering to which she has been subject, with slightly less quantity, more protracted or possibly intermittent flow; there may or may not be shreds cast off, and the significance of them is slight.

The patient will probably say she knows she is not pregnant because she has just menstruated or now is. An examination will reveal the vaginal and cervical signs of pregnancy, with a very sensitive cervix. The body of the uterus may be almost normal in size, to one side of the uterus, or behind it will be found a sensitive, elastic mass. It does not feel like a cyst, blood-clot, pus-tube, or anything else of which I know, but it imparts a sensation peculiar to itself. The nearest or best description is that of a placenta felt through the fetal membranes, although this does not exactly describe it. In some cases the decidual discharge is such as to mislead the patient into thinking she has an abortion of a uterine gestation, and the doctor may be misled also.

The teaching that a long interval between pregnancies is of value in a diagnostic sense is not to be accepted unqualified. Four of my recent cases had never been pregnant; one of them was in a young woman who had only been married three and a half months, and was over two and a half months in ectopic gestation when operated upon. She gave a history of serious menstrual suffering for four years previous to marriage, pain always pre-menstrual, and dating from an attack of peritonitis as a sequel of scarlatina.

Another recent case, a woman of twenty-eight, had never been pregnant, but had suffered with all the evidence of tubal inflammation for years. A ruptured tubal pregnancy was removed. This is the specimen. Another young woman, twenty-two years old, who had never been pregnant and had never had occasion to become so except on two occasions, was operated upon and an unruptured right tubal pregnancy removed. These two cases were operated upon within five days.

A period of apparent or real sterility is only of value in so far as it indicates tubal disease, as we know that tubal pregnancy can only take place in diseased tubes. We should therefore look for the cause of the sterility, and when we find this, if it be in a history of tubal disease, it will be of some value. If, however, the sterility be due to causes outside the tubes it is of no value. This, as you see, makes sterility for a period only an indirect service to us, as we must first be able to determine the existence of disease in the Fallopian tubes.

Another case had an abortion at three months, in September, 1903. On May 9, 1904, I removed a ruptured ectopic of left tube of approximately two and a half months. This interval was less than six months from time of abortion to date of conception with the tubal pregnancy.

On June 11, 1904, I removed an unruptured ectopic of right tube from a patient who had never been pregnant before. She had been married less than a year. Her general health had always been good, but for the past seven years she had suffered severely with each menstruation. The pain was pre-menstrual, and she was advised to get married; that marriage and a pregnancy would cure the menstrual difficulty. This advice was given without an examination of the pelvic structures upon the theory that there was some *obstruction*. The physician was honest in his advice, but, unfortunately, was following teaching that never did have a basis in pathologic fact. Careful inquiry into this case-history reveals that seven years ago, after dancing in a warm room, she sat by an open window until she became quite chilly. She was menstruating at the time, and by the next morning it had stopped. During the day she had two or three light chills and suffered some pain on right side. Late that night she began vomiting, and became very sore over entire abdomen, but worse on right side. She was treated for appendicitis, but from that time she has been irregular, has always suffered severely, has had leucorrhea and a constant tenderness over lower part of her abdomen. At the operation many adhesions gave evidence of former peritonitis. The appendix was examined but found perfectly normal and high up, away from the seat of trouble. It was therefore *not removed*. All adhesions were separated and both the pregnant tube and the left one were removed.

There are two suggestive things in this case:

1. The interval theory has no place, as she had never been pregnant before, and the short time after marriage suggests there was no sterility.

2. The danger of advising marriage as a cure for painful menstruation or other ills to which women are subject, without first carefully examining to determine the local condition.

Another case illustrating the relation between tubal pathology and extra-uterine pregnancy is the one which I reported some time ago in which I operated twice upon a patient within fourteen months, first for left tubal pregnancy unruptured (at about seventh week of gestation), and the second time for right tubal pregnancy (about eighth week of gestation), also unruptured. These were the only pregnancies of which the patient had ever been the subject. She was very anxious for a child. She had been the victim of painful menstruation and Peruna for "catarrh of the cervix," and had been dilated and curetted by a sanitarium superintentendent. Her case-history is a plain and unmistakable picture of tubal disease, with its resultant dangerous climax. At the first operation I did not remove or obliterate the right tube because of the demand of both the patient and her father that it be left, even at the risk of a second extra-uterine.

The following case illustrates the futility of an attempt to obliterate the Fallopian tube by absorbable ligature:

Mrs. E. G., operated upon July 30, 1899, for tubal pregnancy of left side, ruptured. A large amount of clot and a fetus of approximately two months removed. The right tube was ligated in two places with a medium kangaroo tendon. On May 19, 1904, I was summoned to see her and found her pulseless, blanched, and with all the symptoms of serious internal hemorrhage. Operation was declined. She died at 10 A.M. May 21. Autopsy revealed the abdomen filled with blood from a ruptured right tube. The fetus could not be found, but the tube and a mass found lightly attached to it showed chorionic villi.

The successful termination of extra-uterine pregnancy rests upon early diagnosis, prompt operation, and complete peritoneal toilet.

In ruptured cases the fact that clots are very apt to be found in renal region or high up among intestines renders the choice of vaginal operation doubtful, if not bad surgery. In ruptured cases the tube can be more safely removed through abdominal incision.

In ruptured cases I am convinced that

it is often very unwise to attempt to remove a patient to a hospital. The chances of infection in her home can be more readily overcome than the danger of increasing hemorrhage by handling.

In all cases of extra-uterine pregnancy, tubal disease which is bilateral seems well established. The danger of a catastrophe in case the unaffected tube is left is therefore great unless the tube be safely obliterated.

Absorbable ligature is not a safe material to use for obliteration. Silk of large size only should be used. The better practice is to remove both tubes, retaining the ovaries if possible.

(For discussion see p. 463.)

THE ETIOLOGY OF ECTOPIC GESTATION.*

Classification—Report of Cases and a Plea for Early Diagnosis and Surgical Intervention.

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Etiology, from a genealogical view, as a sort of premise for your consideration. Darwin's theory of the origin of man was looked upon as mere hypothesis until science surrounded it with so many facts that it became adopted in spite of the adversities. So it behooves us to profit by this very illustrious writer before the stubborn facts coerce us.

All multiparous animals that walk horizontal to the earth have a bi-horned uterus, and the cornu are analogous to the uterus of woman, inasmuch as they perform the same function; otherwise there would be all sorts of perversion or distortion, notwithstanding the uterus may carry two or three without much danger to the young; but more than that, the cornu must take part, or in all probability deformity will follow.

If the dog was compelled to walk upright, or perpendicular to the earth, would the law of gravitation not tend to lessen the necessity of carrying the young in the horns of the uterus? As distortion and all sorts of deformities would be brought about by gravitation, and also it would be more difficult for nourishment to reach the distal parts of the horns, and consequently, a tendency to atrophy.

At the period of ovulation and formation of the corpus luteum, the corpolutine is taken up by the lymphatics, thus entering the blood, ultimately acting on the nerve centres, and consequently stimulating all the functional glands and tissues relative to conception, and a decidua thus formed.

It appears that the development of the normal uterine decidua is dependent upon a genetic reaction, brought about in some occult way, which seems dominated by the internal secretion of the corpus luteum of pregnancy. If this be true, then the abnormal development of decidua must depend upon some aberration in this reaction. This abnormal reaction may be brought about in one of two ways: First, an over sensitive mucous membrane in the tube, which reacts to the stimulus and forms a decidua; second, an overpowering production of the substances which institute the genetic reaction, which inundates both the uterine and tubal tissues, forcing both to develop a decidua.

If the ovum should become fertilized, the decidua will be progressive, otherwise it will soon degenerate.

As to the extension of the decidua into the tubes, I am not prepared to say whether it is due to quantity or quality of the corpo-lutine.

In all cases that have a pathological condition about the uterus, ovary and adnexa, we frequently have symptoms of pregnancy, especially nearing the menstrual period, which is evidently due to over-sanguination of the parts, thus stimulating the corpus luteum.

We also have the same phenomena brought about by tumors, such as fibroids, contiguous or adjacent to the ovary, and is more pronounced and lasting than the former, malformation, such as supernumerary ostia and diverticula, being the principal causes.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11–13, 1904.

Salpingitis and inflammation in the adnexa is somewhat analogous, inasmuch as they produce a retrograde metamorphosis, and ultimately a hyperplasia and thickening of all the surrounding tissue.

As a result of these repeated inflammations, we may find constriction of the tube, such as torsion, peritoneal bands, atresia, polypoid growth, etc., which may act as mechanical obstruction; but during the time of nidation this nest must be a healthy one or the ovum could not alight. The decidua must be formed or it could not stay; without the decidua the peristaltic action of the tube would expel the ovum, or it would die from inanition, forming a tubal mole, or be eaten up by the phagocytes.

I do not consider that the cilia has any power under such conditions to expel the ovum, while the tube and uterus have a ciliary wave from the distal part of the tube to the os uteri, as in all mucous canals, yet their function must be to perform much more delicate work than this; however, their principal function seems to be on the defensive.

While a great many pregnancies do occur in a healthy tube, the majority will probably be associated with disease.

Notwithstanding the disease is only a factor in bringing about a deformity and malposition, and indirectly becomes a factor in preparing a place for the fertilized ovum to lodge and be better nourished, as the thickened walls of the tube, with some degree of irritation, will probably bring about more nourishment than a normal tube; but the additional nourishment must necessarily be temporary.

The theory of disease as a cause has been so thoroughly ground into the mind of the average medical man that they overlook the true condition; and, again, it requires an expert with the aid of a microscope to differentiate.

In brief, what work has been done along this line tends to elucidate the fact that there are more healthy tubes that are the seat of gestation than heretofore anticipated.

I have frequently asked teachers of gynecology if uterine pregnancy could take place in the uterus without a decidua, and they invariably say no, and at the same time contending that it takes place in the tube without a decidua.

Nature is immutable, relentless and austere, and opposes or fights disease to the end. We cannot warp or distort her, or in any way decoy her into new methods of doing business. She falls in line only when the conditions are made to suit her.

If the spermatozoon comes in apposition with the ovum, fertilization may take place in abdominal cavity, ovary, or any cavity where temperature and moisture are suitable; its life would be very transient, as its enemy would be numerous. It is fair to assume that such frequently takes place, as in case of patent osteum abdominale.

The spermatozoids are found floating in the peritoneal fluid and adherent to the ovary. This is probably the cause of those rare cases of undemonstrable ectopic pregnancy, such as pregnancy in the distal end of the tube, while its uterine end is occluded, and no corresponding corpus luteum.

In uterine pregnancy there is tissue hypertrophy, softening of all the tissues, consequently making them more elastic and better prepared for gestation. Not so with the tube; its musculature consists of external longitudinal and internal circular layers of fibres, containing a mucous lining, which creates considerable peristaltic action. Now the ovum, lodged in this canal, will not have a bed of ease, but this peristaltic action will keep up more or less friction, consequently irritation, maceration and erosion of the tissue. This process will keep up a dull gnawing pain, more or less paroxysmal and colicky in character, which will be accompanied by very frequent discharge of blood, and occasionally constant flow. This morbid action will ultimately penetrate the tube, and concealed hemorrhage will result.

Notwithstanding the majority of these cases rupture seemingly from tension and attenuation of the tube, it will be well to keep both in mind, as the clinical symptoms will vary in accordance to the pathology.

Through the efforts and liberality of Dr. F. J. Hall, of Kansas City (who is probably second to none in bacteriology and pathology), I have seen some very rare and interesting pathological specimens, some of which tend to verify the decidua theory.

Dr. Lawrence, of Columbus, reports three cases of ectopic pregnancy, in which he removed the tube, and the corresponding tube was normal at the time. In about two years the healthy tube became pregnant.

Dr. Tate states that to leave a Fallopian tube in a woman who is a victim of extra-uterine pregnancy is to needlessly, if not criminally, endanger her life in the future.

Dr. Ingraham, of Buffalo, in a report of twelve cases, found nine in which there were no indications of any old inflammatory disease.

Dr. Kelley reports cases of twins and triplets in the tube, and also pregnancy in both tubes simultaneously, as well as tubal and uterine simultaneously.

Recently we have a great many well-authenticated cases of compound or simultaneous pregnancies; from such statistics the inference would be that the human family is more prolific than the average would anticipate.

CLASSIFICATION.

The classification that I refer to in my paper has reference to the period of surgical intervention, so do not confound it with the classification of localized ovum.

Primary classification (per text-books), in accordance to the site of the ovum; outer half of the tube, ampullar; inner half, isthmial; near the fimbriated extremity, infundibular; interstitial, in that portion of the tube within the uterine wall. And I want to add that I have had two cases of apical, and there seemed to be a malformation, which in all probability was due to the misplaced ovum. These cases gave me no little concern, and the first one I thought was an interstitial pregnancy, but as I was not satisfied with my diagnosis I decided to wait; consequently, it became normal, aad ultimately terminated normally. I am inclined to believe that the so-called interstitial that terminate normally are apical.

Class I.—Includes the first six weeks. If I was called to see a patient that had pain in right or left quadrant, and I could by manual examination elicit a tumor on either side of the uterus, with some softening of the uterus and os, and this appeared while she was in her usual health, and no anemia referable to infection, and tumor not bound by adhesions (which may not occur in the first six weeks), with the corresponding objective symptoms, and history relative to the majority of all ectopic pregnancies, I would advise surgical intervention, notwithstanding there may be a fetus in the uterus. Be this as it may, the intra-uterine pregnancy will fare much better if the tubal trouble is removed. Mortality practicaliy *nil*.

Class II.—This includes all from the sixth to the twelfth week, and during this period the symptoms are very pronounced, and the diagnosis should be quite definite. The mortality from operative interference at this time should be very low.

Class III.—From the third month to full term. From the twelfth to the sixteenth weeks there is a great change in the maternal vessels, and from that until term operative interference is quite hazardous, but the exigency of all such cases demands that something be done, and when the diagnosis is verified and the patient in good condition surgical intervention should be resorted to as soon as possible, as the chances of fatal hemorrhage are too great for procrastination.

Class IV.—Includes the cases of rupture, and concealed hemorrhage, from the first to the third months. The mortality from operative interference should not exceed 15 per cent.

Class V.—Covering the period of rupture from three months to term, and including the so-called false labor with rupture. Surgical interference in this class is very formidable, and should be undertaken by experienced men. However, these are the cases in which good judgment is absolutely indispensable to the welfare of the patient, and every precaution must be taken if you expect success.

Class VI.—This is when the fetus is dead and undergone maceration and degeneration; circulation is cut off, and the fetus becomes a foreign body, and usually can be removed *in toto*, as a fibroid, or any other tumor. In no case should the viability of the child be considered, except inasmuch as it endangers the life of the mother. All such are too serious for any display of sentimentality. Not infrequently, while we are considering the viability of the child, and the mother is about her daily vocation, she is seized with sharp, cutting pains, falls as if shot; face pallid, cold clammy sweat, temperature sub-normal, pulse 150, more or less; from dual impress of hemorrhage and shock she presents a most pitiable picture.

This ineffable hour, which was thrust upon her not by her own volition, but lulled into this pathetic state, as a delusive dream, by a malignant fiend; cold, relentless and austere; when no skill or mellifluous tones can suffice, and at last this most dismal aspect is sealed by death.

DIAGNOSIS.

Statistics tend to prove that extra-uterine pregnancy is of much more frequent occurrence than the masses are inclined to believe, and consequently the matter is dismissed without due consideration. It does not seem to me that this very important matter should be kept in mind when you have women under your care that are in the child-bearing period.

Another very essential thing in making a diagnosis is that none of the symptoms are as well marked or obvious as in normal pregnancy, except the nervous phenomena, which are more pronounced. A family history, relative to their proliferation function—to-wit, twins, triplets, etc., are family traits or characteristics.

A period of sterility following childbirth is suggestive of morphological changes in the tube and adnexa, which are predisposing causes. It is also very probable that the majority of sterile cases are not due to disease, but by their own volition, which is brought about by some mechanical device to defeat nature, which has become alarmingly common.

And, again, these organs that are frequently whipped into line (as it were), and nothing for them to do, they become sensitive, irritable, and respond to the slightest provocation.

In the majority of cases the diagnosis is easy. Occasionally we find a case in which the cardinal symptoms are wanting; with the exception of this very rare occurrence, we will find some of the very numerous symptoms that are quite obvious and characteristic.

The most important points to ascertain are a mass adjacent to the uterus, combined with disturbance of menstruation; sharp colicky pains; usually a great deal of tenderness, without apparent inflammation, and discharge of uterine decidua.

Rupture may occur in first three weeks, or go to term, but the majority take place from six to sixteen weeks.

Unfortunately, the majority of these cases force themselves into recognition by an explosion (so to speak), followed by an appalling hemorrhage; occasionally the hemorrhage is only slight in either case, there will be a false membrane formed around the sack, and probably undisturbed gestation, only to cause a more violent trouble.

Frequently there will be sero-sanguineous discharge from the uterus for some time prior to the expulsion of the decidua, which is due to a degenerative process; this may be followed by a profuse hemorrhage; however, all fatal hemorrhages come from the maternal vessels. At first the uterus will enlarge symmetrically, later asymmetrically, that is in accordance to the location of the tumor.

Its transverse diameter is less than in normal pregnancy and its longitudinal diameter increased, the tissue slightly softened, and a flaccid cervix, patent os, bluish and also elongated. In some cases there is no noticeable change in the uterus, and in no case more than five or six inches deep. The uterus will be displaced in accordance to the site of the tumor, almost invariably pushed to one side.

Hemorrhage is a very important symptom; the flow is more steady than in abortion, does not clot so readily, and is much darker, thicker, and very little odor. In abortion the blood is a brighter red, and clots more readily, and if the discharge becomes scant it has an odor of decomposition.

The sharp, colicky, paroxysmal pain, referable to the iliac fossa, with a tendency to faint, are very characteristic, and should lead to a very thorough examination, combined with careful and painstaking history. The bowels are usually disturbed, which creates a flatulency, especially in the colon, and may be misleading if not carefully considered.

An anesthetic examination in all probability will be required to elucidate the matter thoroughly. By seizing the os with a tenaculum and drawing the uterus well down, making digital examination per rectum, you will be able to delineate the uterus, tubes, and a soft fluctuating tumor at the side; and, making traction on the uterus, the tumor will not come down correspondingly.

The uterus will usually be elongated and soft, especially enlarged on the side corresponding to the tumor.

The lower segment of the uterus will be

more or less soft and patulous, and you should ascertain whether it is empty or not. If there should be a past chronic subinvolution, the uterus may be slightly indurated and cervix conoid; however, the history will suffice to differentiate.

An increased force in the pulsating vessels of the vaginal vault, on the side corresponding to the tumor, which you may be able to elicit in some cases. Placental souffle is occasionally heard.

After the fourth month we have several symptoms that are quite pronounced, and very diagnostic in connection with other cardinal symptoms, such as fetal heart beat, quickening, which is usually more pronounced than in normal pregnancy. Palpation is usually quite satisfactory by this time.

A growing tumor corresponding to that of gestation, in connection with any one of the classical symptoms, is very significant.

REPORT OF CASES.

Specimen A.—Mrs. McD., aged thirty-two. Last pregnancy three and one-half years before last illness. This pregnancy was aborted at the third month. After this, menstruation regular but profuse. Health always good. Mother of three children. Had her menses two months before; thought she was pregnant, but was not certain, as there were no breast signs, morning sickness—in fact, nothing but menstrual arrest.

The onset began in the evening, when the patient was suddenly seized with cramps. Household remedies were applied, but her condition became rapidly worse, until the family physician was called. Patient was found blanched, nearly pulseless, great pain in lower abdomen. Dr. Robinson called me in consultation. The symptoms of ruptured tubal pregnancy were so pronounced we decided to operate, which was agreed upon at once. By reason of the patient's reduced and exsanguinated condition, I advised to wait until morning, as the hemorrhage had seemingly stopped, and the majority of cases at this stage will not bleed the patient to death. About twelve hours later, temperature 101°, pulse 124. Operated at patient's home.

On opening the abdomen found large quantity of blood. Discovered ruptured tube with fetus in blood clot, cord still intact, and the placenta adherent to walls and ragged surface of the tube on right side. All bleeding points secured, abdomen sponged dry, and flushed with a normal solution. The wound closed without drainage, leaving considerable salt water in the abdomen. Owing to the shock and hemorrhage, the patient had a slow recovery.

Specimen B.—Mrs. H., thirty-six years old, white. Last pregnancy five years ago. Had been treated for displaced uterus, and possibly tubal trouble. The history in the case is somewhat vague. Came to see me on account of pain in right lower quadrant of abdomen. On palpating, there was considerable tenderness below a line corresponding to the umbilicus, and a thickened area on right side extending from Poupart's ligiment upwards about midway to a line corresponding to the umbilicus. She gave a suspicious history of pregnancy, dating back about a year. I advised exploratory operation, thinking I would find an ovarian tumor. On making section, I found Specimen B in mass of adhesions, which involved right tube and contiguous region. Old inspissated blood occupied cavities in adhesions. You will notice that this specimen is to some extent digested and edematous in consistency.

Specimen C.—Mrs. H. W., aged thirty-two, white, mother of three children. Had two miscarriages. She has always been healthy, and no pelvic trouble with the exception of a slight displacement of the uterus (as she had been told by a physician). She had missed one menstrual period, and after an absence of fifty-two days began to flow, which continued about two weeks. At this time I saw her. Temperature 100°, pulse 95. The area of tenderness was quite extensive, principally involving the lower right quadrant. The tumor was behind the uterus, and very easily palpated. Advised operation as soon as possible, which was agreed upon and done the following day. Temperature 100°, pulse 108. On making section I encountered a mass of congealed blood, which was partly removed, and quickly clamped the uterine and ovarian arteries, thus checking all hemorrhage. I now removed all blood. Found the tumor standing out in bold relief, with the ovum coming forth from the fimbriated end of the tube, much resembling a bud in its calyx. Removed tube, closed abdomen without drainage. Her recovery was uneventful.

Mrs. R., aged twenty-four, white. Had been married about a year. She has always been healthy, except the usual trouble of childhood. She thought herself pregnant, and as this was the first pregnancy she could not make a comparison. She had more or less trouble from the time of conception, but did not think it necessary to consult her physician until she was attacked with a sharp pain, followed by cramping, in the lower part of the abdomen, and her physician was called, and he attributed the pain to a cramp colic. Ten days later the doctor requested me to see the case with him, which I did. Examination revealed a fluctuating tumor to the left, and extending down into the pouch of Douglas. I could not elicit any evidence of life in the tumor, and the symptoms of pregnancy were subsiding, and as the sack seemed to be thoroughly walled off, I made an incision, and about a pint of grumous fluid escaped. I packed the sack with gauze, which was removed in twenty-four hours. The patient's recovery was uninterrupted.

As to the vaginal route, I do not consider it safe or justifiable, except in cases as above described, which is no longer a true ectopic pregnancy, but analogous to a pus sack. However, there can be no stereotyped plans or rules for such cases, as the variations are great and the complications many.

If the ovum is sub peritoneal, it would be better to make an abdominal section, even though you do a colpotomy subsequently. I would rather take the chances of shock and infection than be working in the dark, and take the chances of a fatal hemorrhage.

The majority of ectopic pregnancies that have come under my care had gone to term, spurious labor, and death of the fetus. This is not surprising when it is universally taught that disease is requisite to ectopic pregnancy, and also that it is exceedingly rare. By reason of this false teaching the new graduate goes out into the arena of life to follow his chosen profession, and is very much handicapped for the reason that he has been misinformed as to the causation of ectopic gestation, and at best with a very meagre knowledge of the subject.

DISCUSSION ON THE PAPERS OF DRS. LAWRENCE AND M'CALL.

Dr. William H. Wathen, of Louisville, Ky.: We have listened with much pleasure to these two very interesting papers. I wish to allude to some points discussed in the first paper. We learn by comparing our experiences, and we know how differently things are presented to us. When I first began studying the question of ectopic pregnancy, after our attention was called to its dangers by the late Mr. Lawson Tait, I believe that in cases of intra-peritoneal abdominal rupture the mortality is practically 100 per cent., and I was so taught. But my experience does not sustain that belief. I have never seen more than one or two cases die from primary hemorrhage in ectopic pregnancy, and I have operated on probably as many as or more than one hundred. That patient died from secondary hemorrhage just as I entered the room for an operation, having been called by her physician. Most of the patients upon whom I have operated have had rupture, and some of them being operated on in the acute stage of rupture, otherwise in the secondary condition, and most of them in the secondary condition where the hemorrhage had ceased and a blood-clot lying in the folds of the broad ligament or in the abdominal cavity, sometimes for a few days, sometimes for a few weeks. I have operated upon those cases where there was a clot of blood not larger than a hen's egg, and I have operated on others when the clotted blood was as large as my head. It is astonishing how much these women can bleed without dying and how readily they yield to treatment. I have operated on no class of cases in which the results are so good, having had but two deaths from the operation, one following an abdominal operation in the acute stage in consultation with Drs. Tuley and Rodman, the other in a chronic case, already infected above the pelvis, the liver involved in septic infection, where I drained per vaginam. Therefore, the operation cannot be a very dangerous one ordinarily.

As to the question of what operation we shall perform, I have performed probably forty operations per vaginam and drained clotted blood that extended up to the umbilicus. I have preferred doing that, believing that most of those cases were intraligamentary. In other instances, that were not intraligamentary, I have gone in from above, and where there are extensive adhesions of the bowel or ovaries, by going in from above you know just what you are doing, and your patient does better.

As to the question of a diseased tube, if the extra-uterine pregnancy is upon one side, many times the tube is diseased and should be removed. At other times it is not diseased, and should be dealt with as you would deal with any other condition where you do abdominal and pelvic surgery. I recall the case of a woman upon whom I operated, removing a large extra-uterine pregnancy, about three years ago. She has borne a child since without any complication. I had another a few years ago upon whom I did the vaginal operation, who has since had three children without any complications. I could recall others.

Dr. J. Henry Carstens, of Detroit, Mich.: We are constantly having papers of this character, and they deal with a subject that cannot be talked about too often. Most of us have seen these cases and recognize them. The papers have covered the ground so thoroughly that there is very little to be added.

I am glad that my friend Wathen is getting around to the abdominal route of operating, instead of the vaginal, at last, which is a difficult thing, especially in a virgin, and still I must say I am very much astonished at the very great number of cases of ectopic pregnancy that he has had. Around Detroit the tubes of women seem to be in a better condition than they are in Louisville, and we do not have as many cases of extra-uterine pregnancy as they seem to have in Louisville.

I am sorry that this paper was not read over in England. I am sorry, because I think such a paper should be read in every district or in every shire in England, because they know little about extra-uterine pregnancy over there. Most of you have been reading the papers during the last ten days, and have read about the condition of Lady Curzon. You and I, five thousand miles away, simply from the meagre telegraphic dispatches we have read, have no trouble in making a diagnosis of extra-uterine pregnancy in her case. It seems that our professional friends over there took ten days before they found this out, and finally, becoming septic, they operated on her, and a week later had to operate again, because she was in a bad condition. If she had been in Louisville, in Cincinnati, or in Detroit, some one of us would have operated inside of five hours.

Dr. Joseph B. De Lee, of Chicago: There was one point that attracted my attention, namely, that the diagnosis of extra-uterine pregnancy was easy. Of course, such a statement is relative. Each man takes it to himself. I think the diagnosis is hard, and as a basis for that opinion I will tell you of four cases that happened in one month in which the diagnosis was difficult.

The first was a case in which I was summoned in consultation to operate for unruptured extra-uterine pregnancy. There was a small tumor alongside the uterus, which was easily defined, and there were all symptoms of pregnancy, with colicky pains but without any hemorrhage. I said we will wait a while. Gradually that tumor slipped into the uterus and the woman was delivered of a live baby in the natural way in a few days. This was some months ago. In that case the pathology was this: It was a pregnancy in the cornu of the uterus.

A second case, in the same month, exactly the same, of tumor apparently alongside the uterus separated by a groove, with colicky pains, with all signs of pregnancy. She had a double uterus, and was pregnant on one side of the uterus, as subsequent events showed. She had little hemorrhage.

Here were two cases having the cardinal symptoms of early extra-uterine pregnancy, yet there was uterine pregnancy—pregnancy in a double uterus, and pregnancy in the cornu of the uterus.

I recall another case in which a diagnosis of extra-uterine tumor was made, but a diagnosis of extra-uterine pregnancy was difficult. The woman was treated for abortion and curetted four or five times, more or less successfully. She had a tumor alongside the uterus which was movable and came down with the uterus. It was somewhat hard, and there were signs of pregnancy present. A diagnosis was made of intra-uterine pregnancy with abortion that had been cleaned out and extra uterine tumor or fibroid of the ovary. Vaginal section proved it to be a hematoma, and the result of extra-uterine pregnancy in the broad ligament, not in the peritoneal cavity.

I recall one other case in which the diagnosis of appendicitis was made, but the diagnosis of extra-uterine pregnancy was ruled out because the tumor was high up out of the pelvis. Here was a woman who underwent a laparotomy who had an extra-uterine pregnancy around her appendix, and the appendix, ileum, and head of the cecum formed the sac, and the tube was drawn away by the firm sac of the extra-uterine pregnancy.

I believe that those cases will justify the statement that a diagnosis of extra-uterine pregnancy is not so easy, even in the presence of classical symptoms.

Dr. William D. Haines, of Cincinnati: The remarks of the last speaker were very interesting to me, and reminded me of a case that recently occurred in this city. Dr. Bonifield was called to see a woman who was supposed to have been pregnant five months or more, the attending physician having suspected, and was on record as saying, it was an extra-uterine pregnancy. After careful examination at this time, Dr. Bonifield did not confirm the diagnosis, but as the case was progressing nicely thought it should be let alone. The patient continued to do very well until eight and a half months, when typical labor pains began. The doctor was called in consultation, and there was no mistaking the pain at this time. He opened the abdomen, removed a live fetus, and mother and child are doing well to day. Here was a case in which an expert could not confirm the diagnosis even at five months. In my own experience I have found these cases extremely difficult to diagnose.

Dr. Lawrence (closing the discussion on his part): The point has been raised in the discussion that extra-uterine pregnancy is difficult at times to diagnose. That is true. It is likewise true of cases of appendicitis and of gall-stones, as well as other affections. The occasional case is the difficult one. However, the statement I made in my paper was that the early diagnosis of unruptured extra-uterine pregnancy was no more difficult than the early positive diagnosis of typhoid fever or appendicitis. By that statement I will stand. There will be, occasionally, cases in which we cannot make a positive diagnosis beforehand. The diagnosis of extra uterine pregnancy before rupture is easier made positively than the diagnosis subsequent to rupture, because you may have conditions produced by rupture of the appendix, a perforated bowel, or any one of a half-dozen other conditions which simulate a ruptured ectopic gestation, such as profound shock, evidences of hemorrhage, acute peritonitis, and all symptoms which follow a ruptured ectopic pregnancy are not pathognomonic. It is only in the rare cases that abdominal surgeons do not make a correct diagnosis.

As to making the diagnosis early, it must be made early if we are to reduce the mortality. We must operate before rupture occurs if we are to reduce the mortality. We cannot expect the general practitioner to do what the specialist can do. The responsibility of the matter rests upon those of us who are doing abdominal surgery, teaching that the diagnosis should be made in the majority of cases. I have not stated that I could make the diagnosis invariably. I cannot do it. I make mistakes. We all make mistakes, and occasionally we will be unable to make the diagnosis before rupture.

Dr. McCall (closing the discussion): The fact that ectopic pregnancy can be diagnosed early in the majority of cases has been well demonstrated by Dr. Lawrence. As to these matters being trivial and are passed over very lightly, they are not. Some of these cases are difficult. They are attended with great danger, and those who place on record a hundred cases must necessarily sum up their mortality of about 30 per cent., taking the advanced as well as the most difficult cases into consideration, such as those that rupture after four months, etc. They become exceedingly dangerous. On an estimate, the mortality is over 50 per cent.

I regret very much that I did not have time to finish reading my paper. Some one asked a question to the effect that when a woman was delivered of a child, saving the mother, what would they do with the placenta? In those cases the matter should be left wholly to the surgeon in charge, who should have experience and judgment enough to know what is best to do. In some cases we can remove the placenta *in toto;* in others we leave it to be removed subsequently.

THE USE OF A NORMAL SALINE SOLUTION IN SURGERY.*

BY L. G. BOWERS, M.D.,
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The use of a normal salt solution subcutaneously, or by the intra-venous method, or in cavities, for the relief of hemorrhage and shock, intoxication and dilution of septic material in the abdomen, and for many other conditions, seems to have become more thoroughly understood, and at least is used on a more scientific basis than formerly.

It is not sufficient to say that a salt solution should be used, but we should designate the particular strength of solution which will not interfere with any of the functions of the blood nor injure its cells.

If a solution is too concentrated it will cause the red cells to shrink; and if *vice versa*, to dilute it first causes them to enlarge and later to part with their hemoglobin. Generally speaking, when a normal salt solution is referred to, the majority of the profession would take this to mean a 0 6 of 1 per cent. solution of sodium chloride. But it has been proven by many good investigators, such as Hematocrite, that a solution in which the red cells will neither swell nor shrink is a 0.9 per cent. Again, he finds that a 0.9 per cent. sodium chloride solution will freeze at about the same temperature as blood serum. He has further demonstrated that a 0.5 per cent. solution will completely destroy the corpuscles, and when added to blood it will make a uniform translucent red solution. In view of these facts, it seems singular that the profession generally accepts a 0.6 per cent. solution as the proper and normal one. Probably a better and more suggestive name would be a physiological saline solution.

Ringer, of Cambridge, has demonstrated, in experimenting on the irritability of frogs' muscle, that the irritability remained longer if he used tap-water instead of distilled water in making the solution. This is due to a small per cent. of calcium and potassium salts that are in the tap-water. He also demonstrated in experimenting with frogs that after the heart stops its rhythmic contractions in a normal sodium chloride solution, by adding potassium and calcium there would be a return of the rhythmical contractions, which may continue for some time afterwards.

We know that the calcium is necessary for the clotting of blood, and to other of the body's functions. Howell and Loeb's conclusions are that the calcium is the stimulating agent to the heart muscle and the potassium is necessary for its rhythmical contractions and relaxations. They further consider that it is necessary to have the solution made or rendered slightly alkaline by the addition of these salts, which also increases its osmotic influence.

The writer thinks it is too inaccurate

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to make a solution by measuring the salt in a teaspoon, and guess at the quantity of water used, as is many times done. I can see that sometimes in emergencies it is necessary to overlook some of the finer conditions, which will take time from the patient. Generally speaking, the water should be at least sterilized, filtered and measured accurately. We should add about sixty-eight grains of sodium chloride to each pint of water used. I think the better way to prepare it is to have a stock solution of a known strength which can be measured and added to the solution to be used.

The next question which I desire to take up is as to the use or non-use of a physiological salt solution in the abdominal cavity. I know there is a great difference of opinion between eminent surgeons on this question, and, of course, I do not expect to in any way decide this question, but to give some of my personal experiences, as well as a number of opinions that I glean from the literature upon the subject.

Dr. Clark, of the University of Pennsylvania, seems to have experimented more on this line than most other men, and putting it in his own words, he said: "This is my hobby." Consequently, I will quote several extracts from him. He has demonstrated the value of the salt solution in sepsis by experiments on rabbits. He injected pure cultures of streptococci into their peritoneal cavities, which caused their death on an average of thirteen hours, when there were no injection of salt solution used. And, again, he made another lot of experiments under the same conditions, in which he injected the same amount of a culture of streptococci into the peritoneal cavity, and in addition he injected one hundred cubic centimetres of salt solution. As a consequence, 44 per cent. of the animals survived the infection, and the average length of time which the animals that succumbed lived was more than eighty hours.

His conclusions were that salt solution does not increase, but minimizes, the dangers of pyogenic infection, and that any dilution of the poison seemed to increase its elimination. Further, that there was an increase of leucocytosis, the patient seemed very much more comfortable, and it decreased thirst and increased the urinary secretion.

Burtenshaw reports a case in which, by continuous washing of the abdomen in a septic condition, with suppression of urine and with symptoms of coma, he caused the passage of 210 ounces of urine in thirty eight hours, with relief to the patient.

Tavel's experience has been that a salt solution, or rather, as he prefers, a salt-soda solution, promotes repair, prevents adhesions and decreases the irritation to the peritoneum.

Longnecker says "that in one hundred cases where he used salt solution he got good effects in all but eight cases, these not being influenced one way or the other," they being burns of the worst degree.

Robinson's conclusion in these perplexing cases of chronic non-tubercular pleurisy with adhesions, which had been operated on by repeated aspirations without cure, is that in such cases injections of a hot salt solution caused increased osmosis of fluid into the blood-vessels, acts as a solvent and antiseptic, and has a sedative effect on the pleural vaso motor nerves.

The writer has had one case of pleurisy with effusion which had been tapped three times, with rapid refilling each time, whereupon we resected the rib and emptied the cavity of pus and washed it out with a hot saline solution, which was repeated a number of times afterward, with rapid recovery of the patient.

We are aware that most of the authorities advise against the washing of such cavities, but it seemed in this case that it stimulated the osmosis and relieved the pleural irritation of the patient. He always stated that after the flushing out of the cavity he felt better and could breathe with less discomfort.

The writer believes that after abdominal operations, without there has been a localized collection of pus, which is only being drained, or in those cases in which the peritoneum is already overtaxed, or water-logged, with a serious effusion, the abdominal cavity should generally be washed out with a physiological saline solution. This cannot possibly do any harm, and if there has been much loss of blood it will increase the blood pressure within the vessels, relieve shock, decrease thirst, dilute the septic material and favor its elimination, excite diuresis and promote the comfort of the patient.

These cases where I have operated and closed up after a dry mopping have seemed to me to have an increased peritoneal irritation, as well as increased thirst and a very great decrease in the amount of urine passed.

Those cases in which I have used a salt solution to flush the cavity will soon have a moist skin and an increased diuresis. The heart's action will become stronger and it seems to float the intestines and the omentum into their proper places, and relieves to a very great extent the intra-peritoneal irritation which follows after other methods of toilet. As a consequence, it is rarely necessary to give them any anodyne following the operation.

The writer has adopted the method of dressing external wounds with plain gauze wrung out of salt solution. It seems to stimulate union, and promotes drainage around the sutures if necessary.

During the last few years I have experimented by first placing a dry dressing with powder upon the wound. When redressing, in four or five days, we will occasionally find a little breaking down around the sutures, or a little secretion some place in the wound. In dressing this the wound is washed thoroughly, at the same time picking off the crusts around sutures and in the line of the wound with the tissue forceps, then carefully cleansing again those parts with salt solution and placing a moist gauze dressing of a salt solution on the wound. Nearly always upon the next dressing we will find, if there has been redness, it has disappeared and that the wound is closed tight around the sutures and closed up in the line of incision.

We have found in abdominal wounds, where it has been necessary to drain, in cases such as appendiceal abscesses where they have been drained for a number of days, that we will get a very much more rapid contracture and closure when washing them out with salt solution and dressing them or packing them with a gauze moistened in saline solution.

The average result has been unfavorable in our experience in the dressing of any wound, without it is occasionally necessary to check secretions or the dressing of wounds of face with powder. Usually you will find upon re-dressing a wound upon which powder has been used, especially in infected wounds, that it has become incrusted and the underneath side of the crust is glazed with albumin. Beneath this you will find a secretion which has prevented cell growth.

We can take these same wounds and wash and cleanse them and put on a gauze moistened in normal saline solution, and quickly see that nature, by its stimulation, will close the wound, and the gauze, instead of retaining the secretion between the wound and the powder, is drained out by the gauze and consequently does not interfere with its granulation.

There could be many other points on the usefulness of a physiological saline solution brought out, but I will desist from further taking your time, believing probably the discussion will bring outsome of them.

REPORT OF TWO MASTOID CASES; DEATH FROM CEREBRAL COMPLICATIONS.*

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Our successful cases are always more gratifying to us than the fatal ones, yet our fatal cases often teach us more than those that recover.

It has been the writer's good luck to have only two deaths from mastoid disease among a large number of operations (a large number for a place as small as Zanesville).

One case seventy-seven years old had kidney and bladder trouble and enlarged prostate, and it was not deemed wise to operate him and he died of cerebellar abscess.

I have to report two cases.

CASE I.

Mrs. M. M., aged fifty-five, referred by her family physician. Gives following history: In February, 1904, had severe earache for several days during an attack of grippe, but ear did not discharge; pain soon disappeared, but a month after it reappeared and auditory canal became very tender. Tenderness continued, becoming worse. Her physician prescribed various ear drops, but without benefit. She consulted the writer June 29, 1904, and I found no discharge; right auditory canal very much swollen and tender, especially on the posterior wall; tenderness over tip of mastoid and angle of the jaw, also along sterno-cleido-mastoid muscle. Pain severe, and has had to take considerable morphine to alleviate it. Temperature 99.2°; also has a small hole the size of a pin point over sterno-cleido muscle two inches below tip where pus can be squeezed out.

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* Read before the Athens County Medical Society, March 7, 1905.

July 1. Operated at City Hospital. Did radical operation. Found posterior wall and floor of bony canal necrosed, outer wall anterior face of mastoid diseased; cells of tip were healthy, but I curetted them. Antral cells diseased and were thoroughly curetted. Sheath of sterno-cleido mastoid opened and irrigated and gauze drain inserted.

Went home July 31 to be under her physician's care. Part of the time temperature remained normal and then there would be a rise of two-fifths of a degree and pain returned and wound discharged very offensive pus, containing staphylococcus aureus and pyocyaneous, pneumococci and tubercle bacilli. (Several of her family died of tuberculosis and her son has it.)

September 21. Operated again. Removed a large amount of unhealthy granulation tissue. Removed diseased bone from over horizontal semicircular canal, antrum and tegmen tympani, hypo-tympanum at junction with canal, and removed entire bony canal. Curetted wall and floor of middle ear and found them healthy. Found some disease on inner plate of mastoid and scraped this. Facial not injured. After operation temperature remained normal for several weeks, then there was a slight rise, and had pain and discharge of offensive green pus and granulations unhealthy.

October 8. Operated again. Scraped some disease from inner plate at tip of mastoid. Removed nearly all of the vaginal process down to the styloid process. Removed floor of tympanum up to and including part of the jugular fossa. Removed part of cells back of semicircular canals. Also removed small portion of bone from above the semicircular canals and got hemorrhage from superior petrosal sinus, which I stopped with gauze plug. Facial nerve not injured. Hearing good. Went home November 1.

November 24. Wound shows unhealthy granulations, very offensive pus. Temperature 99°. Operated and removed remainder of anterior wall of tympanum, also balance of roof and floor of tympanum. Removed diseased bone from all around facial. Facial bruised, no paralysis. Exposed dura over tympanum. Removed inner plate and all of tip of mastoid over sinus and jugular bulb and found part of it diseased. Sinus injured and plugged the cut with gauze. Got along fairly well for two weeks, then offensive discharge increased and unhealthy granulations sprung up in spite of repeated cauterizations with very strong silver nitrate solution. Temperature 99.5° and 99°.

December 23. Looks very pale and anemic from profound systemic infection from wound and repeated operations. Operated to-day, removing all cancellated bone, both diseased and healthy, from around semicircular canals and cochlea, all bone from over the knee of sinus, also over internal ear, injuring superior petrosal sinus, which was plugged, and dura may have received a small cut or bruise from a spicule of bone (bone removed here with rongeur forceps); also removed portion of zygoma, balance of vaginal process into jaw joint; also removed considerable bone from about the dura. Facial nerve injured in removing bone from around semicircular canals. Bone over carotid healthy.

January 8. Slight fever, some symptoms of meningitis, cannot hear well in good ear. Some symptoms of brain compression, probably clot from hemorrhage from superior petrosal sinus and pressure from gauze plug.

January 9. Cannot hear in good ear, temperature 102°, cannot talk, severe meningitis.

January 10. Temperature 105°, unconscious, died to day. No post mortem.

The centre for hearing of the left ear is located in the right first temporo-spheноidal convolution just above the middle and internal ear, and the clot or pressure of the gauze plug at this point caused the deafness in the opposite ear. Infection entered the brain either through a small abrasion in the dura, or through superior petrosal sinus.

CASE II.

Mr. W. B., aged sixty. Called to see him January 9, 1905. Suffering from severe earache, which began two days before. Temperature 100°. Tenderness over tip of mastoid and antral region. Under chloroform (is a very nervous subject) made large incision in drum, but no pus escaped because it was thick. Use poultice in auditory canal for twenty-four hours, then stop it. Every two hours syringe ear with sterile water and then squirt in solution 33 per cent. argyrol.

January 10. Ear discharging.

January 11. Ear discharging, temperature 101°, same treatment and ice over mastoid. Mastoid very tender.

January 12. No better. Advised mastoid operation, but he declined.

January 13, 14, 15, 16. No improvement in mastoid symptoms. Each day he declined operation. On January 15 stopped ice, as the latest authorities maintain that if used too long it tends to drive the disease toward the brain. This man is a heavy, steady drinker, and was in a sanitarium for delirium tremens a year ago. Is taking stimulants now.

January 17. Consented to operation, as he was beginning to show drowsiness and mental hebetude. Operated at City Hospital. Found outer plate of mastoid very hard. On entering cells found them to be of the very large pneumatic variety and full of pus. Thoroughly curetted all cells of mastoid proper and tip and antrum, facial not injured or exposed, bone of middle ear healthy, due, no doubt, to the free irrigations of argyrol. Found a spot above and behind internal ear where bone was diseased, which I carefully removed, exposing dura for an inch in diameter. Removed diseased cells from all around semicircular canals. Internal plate of mastoid healthy. Reacted well. Next day showed symptoms of delirium tremens. Gave whisky and bromide.

January 19. Tremens worse. Gave hydrobromate of hyoscin. This quieted tremens. Temperature 103°.

January 20. Temperature 104°. Removed dressing shows pus.

January 21. Erysipelas of lobe of ear and around wound. Apply 75 per cent. ichthyol over ear and head.

January 22. Temperature 104.6°, delirious, continue ichthyol, 100 per cent.

January 23. Paralysis of face (erysipelas about facial nerve or in brain, as cornea is affected), cannot swallow and became unconscious in evening.

As the disease was a meningitis erysipelatus nothing could be done. Remained unconscious and died January 23. Pus was examined by Dr. F. S. Baron, of Zanesville, who reported it swarming with the streptococci of erysipelas and some pneumococci. No post-mortem. Erysipelas occurring in a heavy drinker after a mastoid operation with the dura exposed is considered hopeless when symptoms of meningitis have developed.

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

Meeting of March 20, 1905.

THE PRESIDENT, MAGNUS A. TATE, M.D.,
IN THE CHAIR.

STEPHEN E. CONE, M.D., SECRETARY.

DR. ROBERT CAROTHERS read a paper (see page 451) on

Traumatic Tetanus.

DISCUSSION.

DR. JOSEPH RANSOHOFF: The subject of tetanus is full of interest, which has certainly become greater in the last ten or twelve years. I do not know of a single disease in which the therapy has changed so much as that of tetanus. I remember amputations were done early in my career to stay its progress, and my friend on the left has just called to my mind a case which recovered in which we employed nerve stretching. This case was reported to the Academy some years ago. I tried nerve stretching in four or five cases after that—all of them more acute than the one which recovered—and they all passed to the great beyond. I have recently tried in at least a half dozen cases the antitetanic serum, and I shall have to confess from the use of this remedy I have not had a single recovery. There seems of late to be a tendency to use the antitetanic serum by intra-cerebral injection. I have tried that in two cases, and the last case in which I tried it died on the table while the injection was being made. I shall not try to inject the serum in that manner again. I would much prefer to do as I have in other cases, although not productive of any good results, *i. e.*, make an intra-spinal injection. It has been conclusively shown that the toxin is in greater abundance there than elsewhere, and also that the toxicity of the cerebro-spinal fluid is greater than that of any other fluid in the body. Hence, in order to have any good results the serum must be injected into the cerebro spinal canal, where it will become mixed with the fluid contained therein. It came in as close contact as possible with the ganglionic cells of the anterior horns.

One of the most acute cases of tetanus which it has been my misfortune to see occurred after vaccination. It was a case which I saw with Dr. Wolfstein. In this case we injected the serum into the lumbar region, making three or four punctures, but the disease continued just as though nothing had been done. The case developed symptoms that indicated an involvement of the medullary centres, and I believed that if we could inject the serum directly or nearly so in relation with the centres we might accomplish something. I tried this for the first time then, making a puncture into the cervical spinal canal and the moment the serum went in I thought the patient would die. I doubt if I shall ever repeat that experiment again. The injection of the antitetanic serum into the cerebro-spinal canal I think is the best way of administering it, for the reason that, in the first place, the narrow fibres of the cauda equina are then bathed in it; and, in the second place, the cells that are most active in the production of the convulsions, those of the anterior horns, are treated more directly by the serum than they could be if the serum was injected intra-venously or subcutaneously, or even into the cerebrum. I never could see the philosophy of injecting the serum into the brain itself. It strikes me that the brain cells, those that would be affected by the intra-cerebral injection, are the last to become involved in the disease. We find that the muscles affected in this disease are those supplied from the anterior horns, the psycho motor centres being the last to be affected—hence, why inject the serum into the brain itself?

As to the treatment, that is prophylactic, and such treatment should be applied to the wound at the time named by the essayist—that is, before there is any suspicion of tetanus. There was one case which I saw a good many years ago with a physician, in which I performed a curettement after the spasm had developed in the muscles of the jaw. The physician stated that he had seen this patient in a convulsive seizure, and he was a very careful observer, and his statement was probably true. This patient had stepped upon a nail and had an infected wound. I made a thorough curettement and packed the wound with iodoform gauze and recovery followed. Whether this was a case of true tetanus or not I cannot say. Too much cannot be said upon the necessity of thoroughly treating the wound before tetanus develops. We all know that a clean wound does not produce tetanus. I understand in some of the cases reported by the essayist that the wound had healed entirely. It is very doubtful, indeed, if the toxins of tetanus can develop from micro-organisms in a wound that is absolutely aseptic. The fact that suppuration takes place in a wound that is apparently clean and healed up, due to germs that require and use up oxygen, shows how infinitely more careful we should be in a wound which is unclean; that is the strongest argument that can be brought forward for the thorough treatment of the wound before tetanus develops, long before there is any suspicion of tetanus. The prophylactic injection of antitetanic serum is like the prophylactic injection of any other serum. The fact that tetanus does not develop after its injection is no proof that it has prevented the development of tetanus; it might never have developed if no serum had been used.

There was one case reported by Dr. Carothers which interested me particularly, and that was the one in which a curettage was done. We do not see cases following wounds of the uterus—the surgical wounds upon the uterus—often. I know of only one case in which a curettage was followed by tetanus. It formerly was the vogue of a good many gynecologists, after curetting the uterus, to swab it out with fuming nitric acid, and in one of those cases in the hands of Dr. Davis tetanus developed. That case was particularly impressed upon my mind, because it is the only case that I have seen in which the tetanic spasm did not involve the closure muscles of the jaw; they affected only the depressors. In most cases that we see the jaw is locked firmly, but in this case the jaws were just as firmly separated by the rigidity of the depressor muscles.

I should have liked very much indeed to have had the few cases of recovery reported by the distinguished author of this paper, but I presume it will be a long time before anyone will be enabled to report a series of cases of acute tetanus that recover by any method of treatment.

When the doctor was reminding me of that case of nerve stretching I was thinking of the circle in which we are traveling. The old idea of tetanus was that the disease spread from the wound along the nerves supplying the wounded part to the spinal centres, affecting mostly the cells of the anterior horn of the cord, and upon that idea nerve stretching was done. Now the very latest, I believe, in the development of tetanus is that the toxins actually spread from the point of infection, along the mixed nerves, directly to the motor cells. It has even been proposed, and actually carried out, that injections be made into the nerve cords, little needles having been made for this purpose. The anterior crural and sciatic nerves have been treated in this way. This is done in order that centripetal injections may be made along the most direct routes to the motor cells in the anterior horns of the cord. So we see the philosophy of the disease seems to have gone back to where it was twenty years ago, at least so far as the idea of the upward course of the toxins from the wound is concerned.

Dr. J. L. Cleveland: I would like to have Dr. Ransohoff say a few words concerning the time it takes for the disease to develop.

Dr. Ransohoff: I have seen one case in which the disease developed and died in twenty-four hours. This case occurred in the clinic of the elder Langenbeck. The period of incubation varies greatly, but the longer the disease is in developing the milder the case—I think there is no question about that. When it does not develop until twelve or fourteen days after the injury there is some hope for the patient getting well; in acute tetanus there is very little hope.

Dr. Cleveland: I have had very little experience with tetanus, but as a general practitioner I have seen more or less of it. The question which I asked Dr. Ransohoff was prompted by a case which I saw three or four months ago, death resulting. The injury from which the tetanus developed was a compound comminuted fracture of the ankle joint. The bones protruded, although there was no dirt or filth that got into the wound directly, so far as I could ascertain, except the dirt which was on the patient's clothing. The fracture was of a very serious character, but the patient was in a good condition physically, and everything looked favorably so far as the life of the patient was concerned. This case went on over two weeks, and it was about the sixteenth day before symptoms of tetanus began, and then they began in a very mild form. The first symptom noticed was a stiffening of the abdominal muscles, very slight in degree, and the fact that it commenced so long after the injury led me to hope that the case might terminate favorably. I called in Dr. Hinckley to see this patient, the symptoms continuing in a modified way for at least one week, and then they grew worse and worse until the patient died. The convulsions, or spasms, gradually extended to the muscles of the back and jaw: in fact, there was present an almost complete opisthotonos. The wound was treated antiseptically, as thoroughly as it could be done under the circumstances, and then the parts were put up in a plaster-of-paris dressing. The wound itself seemed to be doing well, but I think in this case there was more or less general sepsis, because some slight fever existed all the time from the beginning of the accident. So far as I have investigated the subject of tetanus the authorities state the longer the time after the accident that the disease develops the more favorable it is. The few cases that I have seen have been of this character, the disease setting in a week or ten days after the accident occurred. In this case I did not try the antitetanic serum at all, because, from my inquiries of friends, and at the hospitals, as to its efficacy, the result did not seem to justify its use. The carbolic acid treatment was used from the beginning.

There is one method of treatment in this disease in which I have been particularly interested, and no doubt you have seen reports of it. The treatment consists in the placing of the patient in a place where you can have the atmosphere very cold, below 32°, about the same temperature which prevails in the cooling rooms where beer is kept. I have been sorry that we did not try this method upon the case which I have just reported, as he did not live far from a brewery and we could have placed him in one of the cooling chambers. Of course, a patient would have to be thoroughly wrapped up if he took this treatment. I have seen reports of recovery in two or three cases from the employment of this method of treatment. It strikes me as being a good treatment. How this treatment does good I do not know, but if it acted at all it would do so it seems to me through the cold air entering the lungs. Perhaps some of the gentlemen here know more about this treatment than I do, and did not think it hardly worth while mentioning.

Dr. M. Salzer: The remarks of Dr. Ransohoff that tetanus wounds were attended with suppuration, and also the fact reported by Dr. Carothers that most of the wounds were not punctured wounds, prompted me to rise to make the statement that the tetanus bacillus can be cultivated in the presence of air on blood serum in connection with the pyogenic cocci. That is, if we have a test-tube containing blood serum and inoculate it with the tetanus bacilli, together with pyogenic cocci, the tetanus bacillus will grow in the presence of air. How much greater, then, will be the growth of these germs, in connection with pyogenic cocci, in the body, where all of the conditions for bacterial growth are so favorable, even if the wound is an open one and exposed to the air?

Dr. Max Dreyfoos: Two years ago it was my misfortune to see six or seven cases of tetanus come into the City Hospital shortly after the Fourth of July. The first case came in six days after the Fourth, and during the next twenty-four hours the others were admitted, one after the other. We tried different methods of treatment in every one of the cases. In addition to antispasmodics, we gave the antitetanic serum to three, hypodermatically in two of these, and in the others injected it into the subdural space; one was treated with carbolic acid, the others with curare, chloral, chloroform, etc. All of them lived about an equal length of time—from twelve to twenty-four hours—and then died, it made no difference what the treatment was we employed. They were all treated in from twenty-four to thirty-six hours after the onset of the first symptoms.

In regard to the injection of the antitetanic serum into the body after the symptoms of the disease have manifested themselves, you might as well inject so much water. This antitetanic serum is obtained from the blood of animals supposed to be immunized. According to the *rationale* of the treatment by any anti-serum, its beneficial effect is due to the antibodies which it contains, and any beneficial effect expected of it would have to be exerted before the poison has firmly combined itself with the nervous system, just as in diphtheria. After the poison has become localized in and firmly combined with the nervous tissue, I think it is entirely fallacious to inject any antibody and expect it to have an antitoxic action on the combined toxine. Whether we inject the serum into the subarachnoid space or subdurally, the antitoxine will first be taken up into the circulation, just as it is when injected hypodermatically, and the latter procedure entails no serious risks. If any effect is to be produced by antitetanic serum we must inject it as a prophylactic measure before the poison has had a chance to firmly combine itself with the nervous system.

Dr. S. P. Kramer: I have nothing to add from a practical point of view. From a theoretical standpoint it is rather interesting to consider what great avidity the cerebro-spinal cells have for the tetanus toxin. It is a matter of common knowledge to you that the ordinary explanation given of the causation of the tetanic spasms is that the tetanus toxins travel along the motor nerves to the anterior cells of the spinal cord. The toxin is supposed not to travel along a sensory nerve at all. Now this is a mistake entirely. It is very difficult indeed for us to conceive that this should be true, that in a mixed nerve a toxin should pick out motor channels and not sensory ones which run along the same nerve. The facts in the case are that such is not the case, and this has been established for some time, and for some peculiar reason has been commonly neglected. The avidity of the cerebrospinal cells for the toxin is so enormous that as it passes up the nerve fibres in the sensory portion of the nerve it is held by the posterior spinal ganglion, so whatever tetanus toxin travels along the sensory nerve is fixed in the posterior spinal ganglion, and does not get to the spinal cord. If, however, we inject tetanus toxin centrally to the posterior spinal ganglion, we can produce a disease which might be called "tetanus dolorosa." If we inject the toxin into a sensory root central to the spinal ganglion of an animal it will have no motor convulsions, and will be quiet unless there is some irritation produced, such as a current of air in the skin, then he gives evidence of tremendous pain. He still has no convulsions, but will grab or bite at the part irritated, and eventually dies from exhaustion, probably as the result of frequent attacks of terrific pain. There is no selective action so far as the sensory or motor nerves are concerned, the toxin travels up one as well as the other, and as it travels up a sensory nerve it meets with a cell before it reaches the spinal cord proper. The tremendous avidity of the cellular bodies, and probably the fact that between the substance of the cell and the toxin some definite chemical compound is formed, might account for our inability to neutralize the toxin by an antitoxic body. When once the toxin has reached the spinal cell it is just as hard to prevent tetanus in the lower animals as it has been in man.

Dr. W. D. Haines: There is not only a great difference in the variety of treatment recommended for this disease, but also in the estimation of the pathological picture presented after death. Lorrey made many autopsies in subjects dead of tetanus following the battle of Waterloo, and found inflammation of the upper cord and its coverings. Grinell, in fifty-two examinations, found cord and membrane lesions twenty nine times and muscle and nerve degeneration eleven times. Lockhart Clark found portions of the cord in a state of complete disintegration liquid. Ranvier disproved the theory of inflammation of the cord and membrane by careful early microscopical analysis, showing conclusively that said changes were not pathologic, but post-mortem in character. Laveran found proliferation of connective tissue in the nerves adjacent to the site of infection, but no changes in the cord or membranes. Brown-Séquard regarded it as an ascending neuritis.

Whatever may be said for or against inflammatory lesions in the upper cord, we must not lose sight of the fact that the first clinical symptoms of this disease manifest themselves in the parts supplied by nerves which have their superficial origin in the medulla

To Jewell, an American. is credited the theory referred to by one of the speakers of the selective action of tetanus for motor nerve fibres in its transmission to and from the cord.

The wounds which are prone to be followed by tetanus are of the punctured variety, which rapidly close, thus excluding oxygen and permitting development of the bacillus tetanus, which is anaërobic, and does no damage in the presence of air. I do not recall a single instance where the disease followed an open wound.

The prophylactic treatment consists in early free excision of all damaged tissue in suspicious wounds or amputation. The disease once fully developed assumes a most forlorn aspect, and death usually follows, regardless of any line of treatment. The most favorable results recorded are those found in the "Medical and Surgical History of the Civil War," 10 per cent. of a series of 505 cases recovering.

Legislation has done more to stay the ravages of this frightful disease than has either medicine or surgery, and I think we may look with just pride upon the work accomplished in this direction by the Academy of Medicine. The ordinance prohibiting the possession or use of certain explosives with a view to preventing the enthusiastic denizen from annihilating himself or his neighbor by Fourth-of July patriotism or gun powder, had its birth in these halls. Proof sufficient of the wisdom and utility of this measure is adduced when we learn that not a single case of tetanus followed the first celebration after its enactment, whereas in former years the celebration left in our city from three to ten persons dead of tetanus as a painful reminder of the frightful cost with which this time-honored custom is fraught.

The period of incubation varies from twenty-four hours to many days, but the severity of symptoms and final result are the same in early as in late development, so far as my experience goes. Here and there a case recovers, but mistakes in diagnosis will occur, as there are a number of other conditions which closely resemble tetanus.

Dr. Horace J. Whitacre: My experience along this line has not been very great. It seems to me that the important points in the pathology and treatment of this condition have been so thoroughly brought out this evening that it is hardly necessary to reinforce them. I do feel, however, that the discussion thus far will leave the erroneous impression that the antitetanic serum has very little value.

The pathology of the condition seems to indicate to us the correct line of treatment. Whether we claim that the toxin is localized wholly in the anterior horns, or whether, as Dr. Kramer has stated. it likewise affects the posterior horns, it must still be granted that it has a remarkable predilection for the nerve cells, and that the combination which it forms with them is a very firm chemical one. The question involved in the recovery of the individual in the presence of this definite chemical union becomes entirely one of overcoming the infection still in the system at the time we see the patient. It would seem rational to believe that the prompt counteraction of poison that had not yet attacked the central nervous system might relieve the patient of a sufficient burden to give the cells already attacked an opportunity to react or recover. We are very frequently able to tide a patient over a condition of shock if we can only keep the vital functions going until the nerve cells in the vasomotor centre can rest and regain their power.

We hear of the first, second and third day of the disease; indeed, these terms have been used by the essayist to-night. It would seem more correct to say the first, second and third day after the fatal symptoms have manifested themselves. The patient shows the first symptoms of impending death when trismus gives us the first clinical manifestations of the disease. The pathological picture being such as it is, it does seem that we must get at the seat of the trouble if we are going to obtain any results, and if I am informed correctly the best results have been obtained by those men who have exposed the nerve trunk coming from the seat of infection and injected the antitoxine here and into the spinal canal.

I know of some good results obtained from exposure of the brachial plexus in injuries to the hand. One or in some instances two injections were made into the nerve trunk and likewise into the spinal canal, and patients have recovered. It was my intention at the last period of greatest frequency of tetanus to pursue this treatment, but no cases came to my notice. Cases previously treated by subcutaneous spinal and intra-cranial injection of the antitoxine have died. I have had one recovery in a case of chronic tetanus coming on twenty days after the accident.

It seems to me that the prompt injection of the antitetanic serum into the nerve trunk, and also into the spinal canal, is the most rational of all treatments for this disease.

Dr. Louise Southgate: I was fortunate enough to see the case of Dr. Zimmerman's, and in this instance there seemed to be two sites through which the tetanic infection might have started, one a scratch on the finger, the other a history of a missed period and possible abortion. After the missed menstruation a profuse flow came on, which was considered to be possibly an abortion. The woman received no treatment for this, not consulting a physician for about a week afterwards, when Dr. Zimmerman saw her. Tetanic symptoms had then developed. The woman was then curetted and I gave the anesthetic. The uterus was perfectly clean and normal, no suspicious matter at all among the scrapings. The possibility of infection from that source can be ruled out entirely. When I saw the patient there was merely an abrasion present on her finger, the wound being very slight, merely a scratch, which afterwards healed nicely. There was no evidence of pus present or anything to give us any clew that infection had taken place from that site. So that in this case the original site of infection was not clear.

Dr. Albert Faller: I believe in seeking a cure for tetanus that we are overlooking one very important fact, and that is that we do not know how much disturbance depends upon the tetanus bacillus, and how much on other organisms. For that reason when we meet with failures in treating with a pure antitetanic serum we should look for the cause associated with the tetanus bacillus which produces the disease. If we do experimental work with tetanus, using a pure culture of the germ, the probabilities are that we will not produce the disease. We shall have to bring along with our tetanus germs a certain amount of extraneous matter, and other organisms, or inflict some injury on the tissues by which other germs will enter. Some years ago I was doing considerable work with the tetanus bacillus, and whenever I used the pure tetanus germs I met with failure. I do not think I ever produced the disease with a pure culture, and I do not think I ever failed when I mixed it with earth and then inoculated the animal with the earth, the earth containg the tetanus bacillus, and other germs as well. I do not believe any one has tried to make an antitetanic serum mixing with it the product of outside germs. I think it would be justifiable to try this method of treatment.

I do not quite agree with Dr. Kramer in reference to the avidity with which the nerve cells seize upon the toxin, thereby precluding the possibility of cure. I think the trouble is more in the fact that the toxin is increased with such rapidity that we are unable to guage the proper amount of serum to use to combat the tetanic poison. The tetanus toxin increases one thousand times more rapidly than that of diphtheria, and we can hardly figure the amount of antitetanic serum necessary to have any effect. It would seem to me that we would have to use it in such quantities that we would have to inundate our patient with it.

As to the germ growing in the presence of air I do not think that cuts much figure in the treatment of the disease, inasmuch as the tetanus germ which grows in the presence of air is not virile and does not produce tetanus.

In regard to the method of treating patients with tetanus by placing them in a room suitable for cold storage purposes, I do not think much can be expected from this method of treatment, as the tetanus bacillus grows at a temperature of about 37°, which temperature is necessary to support the human body.

Dr. Walter R. Griess: I wish to thank the essayist for his interesting and most excellent paper. My experience along this line has been chiefly in prophylaxis. During my service at the City Hospital I probably treated thousands of lacerated and punctured wounds, and many cases of gunshot wounds, and I never had a case of tetanus develop from any of them. Four years ago I was discussing this subject with Dr. Ransohoff. My method of treatment was to use pure carbolic acid, and use it liberally. I spent three or four Fourths of July at the Ann Street side of the hospital, and I had numerous wounds from toy pistols to treat. In cases where I could I cut down into the wound and removed the wad and foreign material and then swabbed out the wound with pure carbolic acid. In cases where patients would not permit me to cut down, I simply took a probe and swabbed out the wound as in the other cases, packed the wound and the next day the wad, etc., would slough out. Of course, whenever it was possible I always removed any foreign matter from the wound.

Concerning the use of the antitetanic serum, I have never tried it as a prophylactic treatment, but from experiments on animals we know of its value. Judging from cases of tetanus brought into the hospital, I think Dr. Ransohoff is right in saying that most wounds are infected, and while they may look clean, you will see that the wound is covered over with a little serum, under which you will find a drop or two of pus. It was my good fortune while interne under Dr. Mitchell to conduct a case of chronic tetanus to recovery. The patient was admitted as a case of tonsillitis because he could not open the lower jaw. He was kept on hyoscine. I think the carbolic-acid treatment as a prophylactic measure the best, and I am sure I would not change it for anything else.

Dr. Carothers: I wish to thank the members of the Academy for their presence here to-night, and especially those who have so kindly and liberally taken part in the discussion of these cases, which was, after all, the object of the evening. I did not intend to convey the impression that these wounds were healed, for those which I saw were not entirely healed, but sealed over the top and apparently healed. In Dr. Zimmerman's case the tetanus was present before the curettage, and not following the curettage. I think it due the doctor that I should mention this.

OHIO VALLEY MEDICAL ASSOCIATION.

OFFICIAL REPORT.

Sixth Annual Meeting, Evansville, Ind., November 9–10, 1904.

THURSDAY AFTERNOON.

Chairman Stone: It is now time for the meeting to come to order. Under the head of miscellaneous business we will ask Dr. Floyd to read the names of the applicants for membership.

Dr. Floyd: J. W. Ray, C.W. Pfaff, A. O. Sisk, S. L. Tyner, P. N. Horner, and F. F. Lawrence. I move you, Mr. President, that these persons be accepted as members of this association.

Dr. Graham: I second the motion. (The motion was voted upon and carried.)

Chairman Stone: We have the report of the Committee on Publication, which I will read and you can take action on it later.

"We, your Committee on Publication, beg to make the following report:

"The Lancet-Clinic, of Cincinnati, be adopted as the official organ of the Ohio Valley Medical Association for the ensuing year. The subscription price of the above journal shall be $2.00 per year, for the members of the association in good standing.

"August Schachner, Chairman,
"Mark A. Brown,
"Benjamin L. W. Floyd."

Dr. Floyd: Mr. President, I move you that this report be accepted.

Dr. Graham: I second the motion. (The motion was voted upon and carried.)

Chairman Stone: What is the arrangement about the publication of the proceedings?

Dr. Floyd: They will appear in The Lancet-Clinic.

Chairman Stone: Does that include the discussion of the papers?

Dr. Floyd: This will follow as the papers appear from time to time. That is, the papers will appear, and the discussion will follow. The daily minutes of this meeting will appear on next Monday.

I move you. Mr. President, in lieu of the fact that Dr. Brown had to leave at 12:30, and it is impossible for him to be here and read his paper, that his paper be read by title. The subject is—

Dr. Graham: I would like for Dr. Floyd to withdraw his motion for a moment.

Dr. Floyd: I will withdraw it.

Dr. Graham: Under the head of "Miscellaneous Business" I think that it is proper that we should determine the matter of where we shall hold our next meeting. I wish to say to you that now that we have given the association "Stone" we should give it bread, and the only way to give it bread is to give it something to drink. We have a little town down the river here with wide streets and beautiful trees, which town is noted for its hospitality and generosity and good fellowship, and the association has met with us, in fact it was organized in the second district of Kentucky, and I had the pleasure of being there at the borning, and I would now like to extend to the Ohio Valley Medical Association a cordial welcome to meet with us at Henderson, Kentucky, at our next regular meeting.

Dr. Floyd: We thank you, Dr. Graham, for this invitation, and we shall take it into consideration, but I think the by-laws and the constitution say that the place of meeting shall be decided upon by the officers elected, and the retiring officers, so according to the rule the President-elect, with the other officers, will have that duty to perform. Of course, they will take into consideration the invitation which has been extended to them. Is this satisfactory?

I now move you that the paper of Dr. Mark A. Brown, entitled, "Typhoid Fever in Children," be read by title.

Dr. Shoemaker: I second the motion. (The motion was voted upon and carried.)

Dr. Graham: I suppose Dr. Brown is not here or he would have answered the call.

Chairman Stone: No, he is not

here, and we have ordered his paper read by title.

The next paper on the programme I think is one we would all like to hear.

Dr. Graham: Was there a second to his motion, Dr. Stone?

Chairman Stone: Yes, Dr. Graham, there was a second to his motion and it has been carried.

Dr. Floyd: Before we begin business I presume that it will be necessary for a motion to be made for an order to be drawn on the Secretary-Treasurer for $50 00, to pay the Secretary for his services during the past year, so I move you, Mr. Chairman, that an order be drawn on the Treasurer for $50.00 for Dr. Lieber.

Dr. Graham: I second the motion. (The motion was voted upon and carried.)

Chairman Stone: The first paper on the programme this afternoon is—unless we take up some of the papers that were left over this morning.

Dr Graham: I move you that we proceed with the programme as it is printed, and pass over those who are not here, and then if we have time we can take up those who were left out.

Dr. Stone: That is all right with me. The first thing in order is "The Successful Treatment of So-called Incurables by the Physiological Method," by Dr. J. H. Kellogg, of Battle Creek, Michigan.

The next paper on the programme is on "Chronic Diseases: Some Observations Upon Their Treatment," by Dr. Curran Pope, of Louisville, Kentucky.

The next paper is "The After-Treatment in Abdominal Operations," by Dr. H. J. Whitacre, of Cincinnati, Ohio.

The next is "Report of a Case of Popliteal Aneurism, Treated by Arteriorrhaphy," by Dr. O. H. Pantzer, of Indianapolis, Indiana.

The next number on the programme is "Cholecystitis," by Dr. J. L. Wiggins, East St. Louis, Illinois.

The next is "Rationale of Suggestion," by Dr. Brooks F. Bebee, of Cincinnati.

The next paper on the programme is one by Dr. O. G. Pfaff, of Indianapolis, Indiana, on "Cysts of the Mesentery."

President Hayden: I have here the application of C. J. Dram, for membership. What shall we do with this name?

Dr. Stone: I move you it be accepted.

Dr. Davis: I second the motion. (The motion was seconded and carried.)

Chairman Stone: The next thing on the programme is a paper by Dr. L. D. Brose, of Evansville, on "The Eye, Ear and Throat, Sequela of Diphtheria."

The next on the programme is "Perforating Wounds of the Abdomen," by Dr. Ludson Worsham, of Evansville.

Dr. Worsham: I have only a few words to say in this connection from the cases that have come under my observation. I saw in a surgical text-book put out not long ago that it was a safe thing to not interfere with the wounds of the abdomen; if they were left alone that generally they would get well. The first case that came under my observation was a man that was shot through the back in running from a policeman, and he was brought to the hospital, and his condition did not foretell the bad results which came later. He suffered some from the shock, but his pulse was usually not above sixty-eight. There was no elevation of temperature, but there was some bleeding from the wound. At half past five one evening we gave the man a drink and he began to go down and died at about nine o'clock. A post-mortem revealed the fact that the bullet had pierced and penetrated the tenth rib and perforated the stomach in two or three places and came out over the left lobe of the liver and had cut the lower lobe of the left lung. I do not think that an operation in a case like this would have done very much. I felt very badly over this, thinking that probably I had neglected my duty, and had not done what was right toward the man, but the post-mortem relieved me.

The next man that was brought in was a man that had been shot in the lumbar region, and his condition was pretty good. He was brought in about three hours after the injury. We found that the bullet had penetrated the abdominal cavity. We made and incision and found that the smaller intestine was perforated in eight places. There was some escape of matter from this wound which was wiped away. We used no water. He left us sound and well in three weeks' time.

There also came a man who had a stab wound in the left leg, and I cut down on that and found it had penetrated the abdominal wall and had cut the peritoneum. The wound was sewed together and the man got well, although he suffered a great deal.

The fourth man was shot through the right side over the pit of the stomach. This was a large wound. The stomach was not involved, but we fixed it up and he got well. I do not think he would have gotten well if he had not been such a mean fellow. He has annoyed the policeman very much since that time.

DR. STONE: Gentlemen, this closes our programme. I think it would be proper and right that some member of this organization should move a vote of thanks to the physicians of Evansville for the splendid manner in which they have conducted this meeting of the Ohio Valley Medical Association. It hardly needs a motion, so all that are in favor will signify it by rising. (Most of the delegates rose.)

CHAIRMAN STONE: I must say that I think that the gentlemen that did not rise must be Evansville doctors.

EVANSVILLE DOCTORS: Modesty pre, vents our voting, Mr. Chairman.

CHAIRMAN STONE: The meeting now stands adjourned.

(The papers of Drs. Kellogg, Pope, Pantzer, Wiggins, Pfaff and Brose, will be published shortly.—ED.)

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, APRIL 22, 1905.

CHEMICAL EXAMINATION OF THE URINE.

The late Dr. Frederick Kebler used to say that the more he studied diseases of the kidneys, the less he knew about them, and probably all clinicians will admit that their experience, as time goes on, coincides with the seeming paradox of this acute observer. Possibly this is because, in that examination of the urine has become almost a matter of routine procedure in a medical case, or at least should be, we have come to rely too closely upon its findings, often to the exclusion of more important clinical symptoms referable to other parts of the body. Indeed, we rather expect the urinary analyst to submit to us an exact diagnosis of the condition of the kidneys without any knowledge as to the history of the case or the symptoms derived by physical examination. On the contrary, however, the expert clinician often finds himself wofully at sea even with the complete report of the urine at hand, as shown by the variance between his clinical diagnosis and that of the autopsy room and pathological laboratory.

Cabot has recently called attention to this variation in a splendidly written article based on the ante- and post-mortem findings of more than two hundred cases at the Massachusetts General Hospital since 1893. He found that in the so-called[1] acute glomerular nephritis, a correct clinical diagnosis was the exception, 75 per cent. being wrong; in subacute glomerular nephritis, 50 per cent.; in chronic glomerular nephritis, 11 per cent.; in chronic interstitial nephritis, 32 per cent.; and in amyloid disease, 100 per cent.; this surprising discrepancy, let it be borne in mind, with full clinical and urinary reports in the diagnostician's hands. In quite a series of cases there was found in the urine at least one-quarter of 1 per cent. of albumin, together with casts of all varieties in large numbers, without any discoverable lesions post-mortem. When, in addition to this, there is a series without albumin and without casts, or with the latter in very small numbers, yet the gravest of pathological conditions found at the autopsy, we are very much inclined to doubt just how much of these microscopic and chemical changes, when nephritis is present, are due to the nephritis. As Cabot has well said, we may state with propriety that they may depend upon accompanying functional disturbances whose anatomic basis is still unknown and not to the known anatomic lesions which they happen to accompany. The fact of the matter is that a large proportion of physicians are apt to jump to the conclusion, and life insurance companies urge them on, that albuminuria means Bright's, while the absence of albuminuria is proof positive that the individual is not suffering from nephritis, both of which conclusions are erroneous. Albuminuria and nephritis can each appear without the other; for instance, in that chronic progressive disease of the kidney, in which destructive anatomic lesions are present beyond the possibility of improvement, how common it is to see the albumin appear and disappear without discoverable cause; or, on the other hand, after prolonged and severe exercise, as after a boat race, to find the urine of every member of the crew containing albumin in greater or less proportion. Yet in the former example the lesion is progressive and destructive, while in the latter, while the albumin may be in large amounts, the tendency is toward prompt and complete recovery.

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[1] Journal American Medical Association, March 18 and 25, 1905.

Another old-time favorite method of examination which Cabot has the courage to condemn is the estimation of the amount of urea. It is impossible to compute the time lost daily by the thousands of devotees of this rather useless procedure. Its advocates appear to forget that the amount of urea appearing in the urine depends not only, or, indeed, even primarily, upon the functional activity of the kidney, but on the amount of nitrogen taken up by the individual and the catabolism of the entire economy as well. We must know the amount of nitrogen in the food supply of the individual, his power of digestion, and there must also be reckoned with the amount of exercise, sleep, amount of water ingested, presence or absence of fever, vomiting, diarrhea, cachexia or heart disease, and any great variation in these factors will completely invalidate the urea estimation. As regards casts, we now know that those of the hyaline and granular variety may be found in small numbers in the urine of healthy adults, while Shattuck has claimed that two-thirds of all healthy individuals over fifty years of age show on urinalysis a slight amount of albumin and a few hyaline and granular casts.

It would seem from Cabot's studies that all the time-honored methods of examining the urine must be relegated to the background as unworthy of credence, or at least unworthy of the reliance formerly accredited them, and in this all of us who have given the subject any attention must reluctantly coincide. It is simply a trend of the times, a swing of the pendulum for the over-enthusiasm of yesterday. It is a warning, of which we have had many of late, that we must not develop and rely upon laboratory diagnoses to the exclusion of those formed by the cultivation of the more simple methods of physical examination. We do not decry any scientific laboratory methods, nor should the laboratory worker regard cynically the phenomena elicited by careful physical examination. The wise diagnostician will take account of both and give to neither no more than is their just due.

THE NATIONAL TUBERCULOSIS MEETING.

The details for the annual meeting of the National Association for the Study and Prevention of Tuberculosis, which will be held in Washington, May 18 and 19, under the immediate direction of the president of the society, Dr. Edward L. Trudeau, are being rapidly rounded into shape. The first day's session will be devoted to a general gathering of the association, at which addresses will be made by the president as well as the two vice-presidents, Drs. William Osler, of Baltimore, and Herman M. Biggs, of New York. Another general meeting will be held on the evening of the 18th, at which time the association will be addressed by Mr. Talcott Williams, of Philadelphia.

The afternoon of the first day and both morning and afternoon of the second will be given up to the meeting of the sections, of which there are three, as follows: Sociological, Homer Folks, New York, chairman; Clinical and Climatological, Dr. Norman Bridge, Los Angeles, chairman; Pathological and Bacteriological, Dr. M. P. Ravenal, Philadelphia, chairman. A large number of interesting and valuable papers have already been announced. In the Sociological Section there are at least three to which attention might well be directed: "A Working Programme for Associations for the Prevention of Tuberculosis, National, State and Local," "Progress of the Sanatorium Movement in America," and "Infection in Transportation." In the Clinical and Climatological Section a report of special interest will be that of the Committee on Clinical Nomenclature, with Bowditch as chairman, and Welch, Trudeau, Stengel and Vaughan to open the discussion. From a practical viewpoint, there is possibly no phase of this vast subject upon which agreement is more to be desired and any statement vouched by this national body is practically certain to be regarded as authoritative.

Klebs, as chairman of acommittee on early diagnosis will submit his report and this will be subject to discussion by Osler, Janeway, Knight and Babcock. The rôle of climate in the treatment of tuberculosis will also furnish matter for report by committee, under the chairmanship of Dr. C. L. Minor, of Asheville. No programme could be complete without mention of sanatorium treatment, and this promises to be a matter of great interest at this meeting. Papers will be read of this subject by Drs. C. L. Greene, of St. Paul; W. S. Halstead, of Baltimore; C. F. Gardner, of Colorado Springs; Edward O. Otis, of Boston; S. A. Knopf, of New York; J. A. Wilder, of Denver; H. B. Loomis, of New York; and William Porter, of St. Louis. Dr. Welch will introduce the section on the Pathology and Bacteriology of Tuberculosis with an address on the "Channels of Infection of Tuberculosis," and will be followed by essays of a more or less technical type.

Within a week or two we hope to be able to print the programme in full. A feature of the meeting will be the attendance of delegates of the host of anti-tuberculosis societies that have been formed in this country of late years. The printed papers resulting from a gathering of such authority as this should afford invaluable material in the campaign of education which is now being pushed with such commendable perseverance throughout every section of our land.

EDITORIAL NOTES.

THE Ohio State Pediatric Society has prepared for its next meeting one of the most interesting programmes of its history. Many Cincinnatians will participate either by contributing papers or in the discussion. This society has steadily enlarged its sphere of usefulness by giving practitioners what they actually need in their daily work, and as a consequence the membership has also progressed in the right direction. The programme of the May meeting follows:

MORNING SESSION.

1. The Normal Moods of Babies and How to Produce Them. Darlington J. Snyder, Columbus.
2. Typhoid Fever in Children. Discussion

led by W. W. Pennell, Mt. Vernon; J. W. Dunham, Columbus.

3. Fracture Deformities of Lower Leg in Childhood; Report of Case Illustrated by Skiagraphs. B. Merrill Ricketts, Cincinnati.

4. Hygienic Circumcision. Discussion led by Frederick C. Taylor, Cleveland; S. W. Kelley, Cleveland.

5. The Early Recognition of Hip Joint Disease. Hugh F. Lorimer, Jamestown.

6. Polyneuritis in Children. Discussed by D. I. Wolfstein, Cincinnati; Parke L. Myers, Toledo.

7. Spastic Paralysis in Children from an Orthopedic Standpoint. Discussion led by Gilbert S. Bailey, Cincinnati; Ernest E. Brown, Cleveland.

AFTERNOON SESSION.

8. The Formative Period of Early Infancy; Its Opportunities. Discussed by Elizabeth Campbell, Cincinnati; N. R. Coleman, Columbus.

9. A Plea for the Children. Discussion led by W. C. Chapman, Toledo; T. Clark Miller, Massillon.

10. A Few Considerations on Inherited Syphilis. A. Ravogli, Cincinnati.

11. Clinical Consideration of Some of the More Common Dermatoses of Childhood; a practical demonstration from lantern slides. Discussion led by M. L. Heidingsfeld, Cincinnati; David Kirke White, Cleveland.

12. The Infantile Feeding Chart as an Educator, and What It Demonstrates. Chas. Douglas, Detroit.

13. Treatment of Diphtheria. Discussed by M. J. Albl, Cleveland; E. W. Mitchell, Cincinnati.

14. The Care of the Scalp in Infancy and Childhood. David Kirke White, Cleveland.

RESOLUTIONS ON THE DEATH OF DR. SITTEL:—At the Academy of Medicine of Cincinnati, April 10, 1904, the following resolutions were reported:

"The committee selected by the President of the Academy to present resolutions on the death of Dr. Theodore Sittel offers the following report:

"That the recent announcement of the death of Dr. Theodore Sittel brought sadness to the members of the Academy of Medicine of Cincinnati, for he was well and favorably known as one of the most painstaking and conscientious of the older physicians of the city.

"His was a long and active career, full of usefulness and overflowing with devotion and gentleness to his patients. In his professional work he upheld high standards and was always ready to investigate or adopt any new truth or discovery which suggested an advance in any of the departments of medicine or surgery. To those fellow-practitioners who had his friendship his extreme modesty and unostentatious demeanor will long be remembered. In his own quiet way he was able to pursue his professional work to the very last, and also his scientific investigations (microscopy and bacteriology), the latter with the same ardor and interest as in former years.

"The going out of Dr. Sittel's life removes from the profession of the city one who added not a little to advance its dignity and usefulness.

"ROBERT SATTLER,
JOSEPH RANSOHOFF,
BYRON STANTON,
Committee."

REPORT of the Bureau of Infectious and Contagious Diseases for the week ending April 14, 1905:

Disease.	Cases.	Deaths.
Measles	7	0
Diphtheria	7	1
Scarlet Fever	26	3
Typhoid Fever	8	3
Phthisis Pulmonalis	16	19
Pertussis	29	3
Varicella	3	0
Smallpox	1	0
Cerebro-spinal Meningitis	6	3

DR. ESTELLA R. CALDWELL has resigned as district physician of the Twenty-fourth Ward and Dr. John C. Conzett was appointed to the vacancy.

CHICAGO BOARD OF HEALTH REPORT.—The comparative statement of mortality of the first three months of this year and the corresponding period of last year is on the whole favorable to 1905. There were 186 fewer deaths and a decrease of 4.1 per cent. in the general death rate. But the deaths under five years of age number 429 more than in 1904, while the deaths among those over twenty are 630 fewer. Among the causes of death showing reduction are apoplexy, 4; cancer, 9; convulsions, 10; heart disease, 65; nervous diseases, 5; pneumonia, 286; scarlet fever, 37; typhoid fever, 29; and violence other than suicide, 11. Among those showing an increase are the acute intestinal diseases, 30; Bright's disease, 7;

bronchitis, 8; consumption, 14; diphtheria, 6; influenza, 55; measles, 61; smallpox, 33; suicide, 4; and whooping cough, 90.

Correspondence.

THE HIGH SCHOOL EXAMINATION COMMITTEE.

CINCINNATI, April 19, 1905.

EDITOR LANCET-CLINIC:

The recent action of the Board of Medical Registration and examination in dropping Prof. Coy from the committee of four high school superintendents, to whom was committed the preliminary examination of students desiring to enter the medical schools in Ohio, and substituting in his place Prof. Burnham, of the University, was learned with great surprise—at least by those who were not in the secret of what was coming. The knowledge which came later of the manner in which this change was effected changed the surprise into indignation.

Prof. Coy was one of the original members, and secured his appointment at the suggestion of the medical colleges of Cincinnati. He took an active part in the organization of the work, and it is largely due to his intelligent interest and efforts that the preliminary examination is in so satisfactory a state at the present time in Ohio.

Prof. Coy has always been fair and considerate in the exercise of his authority, and was always ready to listen to and consider all reasonable suggestions, and his work has certainly commended itself to those really interested in the matter, unless it be some badly-prepared and weak-kneed students, or some equally weak-kneed institution.

Dr. Ravogli, a member of the Faculty of the Medical Department of the University, appeared at a recent meeting of the Board of Medical Registration and Examination, of which he is a member, and stated that many complaints had been made against Prof. Coy, and through his influence Prof. Burnham received the appointment. Prof. Ravogli certainly had no authority to speak for the medical schools of Cincinnati; on the contrary, his action was taken without notice to those who most certainly would have flatly contradicted his unwarranted assertion that there had been any reasonable cause of complaint with the conduct of Prof. Coy, and certainly nothing to justify his removal from the position he had so ably filled. It has been suggested that Dr. Ravogli did not act altogether on his own initiative, but was the unwitting agent of some one who might have had some ulterior purpose. What this purpose is it is hard to say, unless it was thought that if the preliminary examinations were conducted by a professor of the University, in the University building, that it would probably exercise an influence to induce students to enter the University Medical Department.

My natural indignation that Prof. Coy should have been treated as he has been after he had so ably seconded our efforts to raise the standard of requirements for entrance to medical colleges has induced me to write this letter, which I trust you will give a place in your columns.

N. P. DANDRIDGE.

Personal Prophylaxis in Venereal Disease.

Blokusewski (*Monatshr. f. Urologie*, 1904, Vol. 9) describes in a historical research all the various methods which have been employed as a safeguard against venereal infection. He regards circumcision as the best of the old time measures. Of the more modern measures the instillation into urethra of 2 per cent. silver nitrate, after the method of Haussmann (1887), is too painful and irritating. He then describes the various forms of apparati which have been devised in recent years. Frank's prophylaktol is efficacious, but cumbersome to use. Viro is unreliable because an ointment cannot penetrate freely. He recommends as the best prophylaxis against gonorrhea in the male an instillation apparatus, called Sanital-Kelch, which contains a very effective 8 per cent. solution of albargin, and can be conveniently carried and applied after each exposure. H.

The Lancet-Clinic

A Weekly Journal of Medicine and Surgery.

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NEW SERIES VOL. LIV. APRIL 29, 1905. WHOLE VOLUME LXXXXIII.

PIROPLASMOSIS HOMINIS (?)—SPOTTED FEVER OF MONTANA.

BY P. M. ASHBURN, M.D.,
MISSOULA, MONT.,
Captain and Assistant Surgeon U. S. Army.

The following article is a rearrangement of a report submitted to the Surgeon-General of the Army in July, 1904, and read before the Cincinnati Academy of Medicine, October 31, 1904, but not printed. It embraces all cases of "spotted fever" occurring in the Bitter Root Valley and the vicinity of Missoula, Montana, in the year 1904, and the conclusions drawn from their study.

The cases were seen in consultation with the attending physicians and Dr. Ch. Wardell Stiles, of the Marine-Hospital and Public-Health Service.

In spite of the purely negative results of the investigation, it is worthy of publication because of the wide publicity attained by the writings of Drs. Wilson and Chowning,[1, 2] and of Dr. Anderson,[3] in which they announce the constant presence in the blood of these cases of a protozoon or organism which they name *piroplasma hominis*, advance the hypothesis that the disease is transmitted to man from the common gopher of this region, *Spermophilus Columbianus*, by a wood tick, since named by Professor Stiles *Dermacentor Andersoni;* and advocated the use of quinine as a specific treatment. The description of the clinical course of the disease is in most respects correct as given by the above-named writers, though I shall mention some deviations noted in the cases seen by me. Their description may be sumarized as follows:

The cases of "spotted fever" in Montana are confined to the eastern foothills of the Bitter Root Mountains (a range along the top of which runs the Montana-Idaho State line), mainly on the western side of the Bitter Root Valley in an area from four to ten miles wide and fifty miles long. The disease occurs chiefly in the spring. The earliest recorded case began March 17, and the latest July 20, though most cases occur between May 15 and June 15.

Incubation —Two to eight days.

Onset.—Chill plus the general symptoms presented by beginning typhoid.

Temperature.—Rapidly developed, and may reach 103° F. to 104° F. on the second day; gradually increases and reaches maximum in from five to seven days, when it may register 105° to 107° F. When recovery occurs it is usually by lysis.

Skin.—Eruption usually begins from the second to the fifth day after the chill, first about wrists, ankles or back, extending over entire body, consisting of rose-colored macules 1 to 5 m.m. in diameter, not elevated, at first disappearing on pressure and quickly returning, at times tender to the touch. The appearance usually rapidly changes, the spots assuming a dark blue or purplish color and increasing in size and often becoming confluent. In some cases the spots do not become confluent, and only a speckling, as of a turkey egg, is present. The skin usually shows slight jaundice. Conjunctiva injected from the onset. Desquamation begins at third week and extends over entire body. Skin may become gangrenous in places, as on elbows, fingers, toes, scrotum, lobes of ears, etc.

Nervous System —Aside from the headache at the beginning, many patients show no nervous symptoms until just prior to death. A low muttering delirium, as in typhoid, is present in some severe cases, the patient being but partly rational. In the severe cases, picking at mouth, ears, bed-clothing, etc., is present. Except at the onset, the disease is remarkable for its freedom from pain. The pupils react normally to light and accommodation. There is no opisthotonos. Kernig's sign is not present.

Circulatory System.—The pulse at first is usually full and strong, gradually becoming rapid and weak, at times out of all proportion to temperature. Blood usually darker and less fluid than usual. Red cells usually about 4.500,000, white cells 4,500 to 12.000, Hb. 60 to 90 per cent. Parasites present in blood of all cases. Widal reaction with bacillus typhosus negative. Spleen uniformly enlarged and tender. Edema of face and extremities present in all severe cases.

Digestive Tract.—At beginning of the second week nausea and vomiting may develop. In some cases nausea is present from the onset. Liver slightly enlarged.

Urinary System.—Urine reduced in amount and high colored. Albumin present, as are granular and blood casts.

Respiratory System.—Respiration rate may reach 60 per minute, though not usually so high. Hypostatic pneumonia sometimes developed. Lobar pneumonia occasionally occurs as a complication.

It was further stated as "almost certain" that this disease is transmitted to man by the bite of a wood tick, a dermacentor, since named by Dr. Ch. Wardel Stiles, "*D. Andersoni*," and as highly probable that the common gopher of this region, *Spermophilus Columbianus*, also harbors the parasite, and that the tick acts as a carrier of the disease from the gopher to man; and, finally, quinine is advocated as the best treatment.

In my study of the following cases I had the advantage of working not only with the attending physicians, but also with Professor Ch. Wardel Stiles, who will doubtless publish his work in full, and, for a short time, with Dr. Chowning, one of the earlier writers, to all of whom I am much indebted.

The first case to appear this year was not seen by me, and the accompanying history was given me by Dr. John Buckley, the attending physician:

CASE I.

Mr. John Rankin, aged sixty-six years. Seen by Dr. Buckley April 29, 1904. When first seen he had two wood-tick bites in the right inguinal region, each surrounded by an indurated inflammatory zone and showing an area of blackened skin about one-sixteenth of an inch in diameter at the centre. Patient had frontal headache and general body aching. Temperature 102° F. Thought he had caught cold.

April 30. Temperature 103° F. Sclerotics much injected and face congested. Tongue moist. Pulse not high.

May 1. Restless. No sleep night before. Bowels open. Temperature 103° F. at 5 A M. and 104° F., P.M. Mottling of skin noticed. Ecchymotic spots the size of a dollar seen on the abdomen. Scrotum black. That evening patient was feeling better and Dr. Buckley was telephoned that he need not see him.

May 2. Worse. Spots dark purple. Temperature A.M. 104° F., P.M. 105° F. Began to have delirium, which soon passed to coma, which lasted until death, on May 3, 1904.

May 2. Worse. Spots dark purple.

Temperature, A.M., 104° F., and P.M., 105° F. Began to have delirium, which soon passed to coma, which lasted until death on May 3, 1904.

CASE II.

The next case was also one of Dr. Buckley's. I first saw the child on May 4, and was struck by the presence of two symptoms not emphasized by Wilson and Chowning nor by Anderson, viz., huskiness of voice and sore throat, and extreme hyperesthesia. The weight of a palpating hand or even of the bed clothing caused extreme pain. She also suffered from photophobia. The immediate cause of death was edema of the lungs.

Esther Cleary, aged seven years and four months. Born in Ravalli County, fifteen miles south of present home. Family history negative. Personal history (previous to present illness) of scarlatina in fall of 1903, mild. No other sickness. Present illness began April 24, 1904; bitten back of ear by three ticks. Bites caused swelling next day. No discoloration and swelling was over upper part of sterno-mastoid below bites. Had fever from that time on.

April 27. Eruption showed on arms, shoulders, hips, knees, ankles, palms and soles. Mother thought she had measles. She had also complained of sore eyes and some pain in back and head. Continued that way with increasing eruption and some darkening of it (browning) until May 2, when seen by Dr. McGrath and pronounced spotted fever. Brought to Missoula on May 3. Complained of intense general soreness after appearance of eruption.

May 4. More irritation in throat. Very sore to the touch. Very drowsy. Cramps in stomach. Restless in the afternoon.

May 5. Headache. Vomited twice. Sore throat. Very restless all night. Rash darker in color but not sore to the touch. Patient very thirsty.

May 6. After sponging rested all forenoon, retained milk, some water and all medicine. Throat much better. Not so thirsty as yesterday. Rested all afternoon, no vomiting. At 5 P.M. cramps in stomach.

May 7. Respiration a little more irregular, retains everything, apparently weaker but pulse good. In breathing very poor, change for the better late in the evening. Breathed easily after a hot bath. Slept calmly about two hours. Began again to be very restless about 10:30 P.M. Pulse very poor at 12 M.

May 8. Choking spells about 12:30 A.M. Breathing very heavy. Finally became unconscious. Eyes very blood shot, pupils very much dilated. Spots out in profusion. Pulse good, but great struggle at times for breath.

May 9. Patient very restless during the night until about 3:00 A.M. Then sank into a comatose condition. Much weaker. Spots very purple. Had sinking spell, improved after a subcutaneous saline injection. Lungs filled up, mouth full of bloody matter. Finger nails turned purple, beginning at the tips about 1 A.M. Died with very little struggle at 1:25 A.M., May 10.

CASE III.

The next case was in a patient of Dr. T. A. Fitzgerald's. Mrs. Robert Allen, aged twenty-eight years. Born in New Brunswick. Family history: Father died of piles (?), one brother of consumption. Mother and four brothers and sisters living and well. History otherwise negative. Personal history (previous to present illness): Had three children. Measles in childhood; bowel trouble last summer. No other sickness till present. Present illness: Moved to present home in January. Had great fear of ticks and has watched for them. Has not been bitten by them. Has had bites by chicken lice; last probably about April 27. May 3, had chill, backache and fever followed, and on May 7 eruption appeared on arms. Since that time, too, throat has been very sore. First seen on May 7. Condition on admission, May 10: Sore throat, fever, slight malaise, but claims to feel well. Body presents on all parts discrete, maculo-papular eruption, very measly in appearance, but no crescentic arrangement. No purpura or petechiæ. Fauces and pharynx much injected and show adherent muco-pus. Cervical glands enlarged. No eruption in mouth or throat. Tongue tremulous and has heavy, white, moist coat. Face placid, blotched with eruption. Eyes normal, mind clear. Heart-sounds clear and regular. Lungs: Respiration slightly harsh and prolonged anteriorly, more so behind. Blowing over right upper lobe posteriorly. No cough. Spleen enlarged, liver not. Abdomen not distended, tender or painful. Menstruated April 11. Bowels been regular, now loose from salt enemata. Urine passed normally. Diagnosis: "Spotted fever."

Treatment.—May 7 to 10, calomel first day and quinine sulphate, fifteen grains every four hours. Next day salol five grains and quinine ten grains every four hours; strychnine $^1/_{40}$ every six hours; saline enema (one pint) every three hours. Probably none of this was carried out as prescribed. Temperature 104° F., pulse 126, respiration 42.

May 8. Temperature 104° F., pulse 130, respiration 38.

May 9. Temperature 102.7° F., pulse 96, respiration 20.

May 10. Temperature 101.3° F., pulse 108, respiration 19.

May 11. Arrived at Sisters' Hospital this A.M. Nervous on admission. Looks and says she feels better. Throat not so sore. Spots unchanged, possibly a trifle darker. Skin presents faintest yellowish tinge. No jaundice of sclerotics or tongue. Bowels moved after salt solution. Was very drowsy all afternoon, restless between four and five o'clock. Retained saline enemas. Patient apparently thirsty, took nourishment. Resting easy at 7:30 P.M.

May 12. At about eight o'clock last night became drowsy, by 8:30 very stupid. Stupor continued all night with rapid respiration. Coma from 12 P.M. until 3 or 4 A.M. Bladder full at 3 AM., when it was emptied for vesical irrigation. Now, 9:25 A.M., in deep sleep or coma. Pulse 80 and good quality. Respiration 39 and slightly stertorous. Blotches have disappeared from face and ordinary spots abundant there. Spots generally darkening. Now plum color, but not distinctly petechial. Lungs: Sounds very harsh all over front and back, with large coarse râles. Six P.M. Comatose all day. Respiration rapid. Face dusky.

May 13. Quinine discontinued last night. Patient then comatose, breathing very rapidly and promised to die in a few hours at most, as lungs were rapidly filling with fluid. This morning face darkly flushed, coma deep, great perspiration. Respiration will be for a time quiet and regular, for five or ten minutes, then very rapid, sixty for a time. Spots no darker.

May 15. Filling of lungs progressed yesterday, edema well marked. Spots increased in size and darkened. Menstruation began for one hour yesterday and stopped. Began again last night and flowed freely until death. Urine and feces passed involuntarily and abundantly. Coughed freely yesterday. Finger nails this A.M. dark, face purple, much noise from breathing. Extremely offensive eder to breath. Dependent side of face turned black immediately after death at 8 o'clock A.M. to-day.

CASE IV.

The next case was in a patient of Contract Surgeon J. N. Merrick, whose notes are here given. This case was seen by me several times and was remarkable for its extreme mildness throughout, its occurrence outside of the usual locality, the absence of tick bites and the recovery without quinine.

Mrs. Mattie Shields, May 12, 1904. Symptoms: Severe intra-cranial and supra-orbital neuralgia, supra-scapular and lumbar pains. Tongue slightly furrowed and fissured. Anorexia. These symptoms dated from May 8. An eruption covering the legs to the knees. Diagnosis: Spotted fever.

May 13. Neuralgia considerably improved under codeine. The eruption increasing. Complains of illusions. Anorexia.

May 14. Eruption elevated and extended over trunk to face and arms. General condition prostrated. Pulse full. Blood examination negative.

May 15. Eruption dusky in morning, becoming brighter through the day, completely covers body and palms of hands. Complains of pains in head. Sleeplessness and illusions and weariness. Many red blood corpuscles are deformed. Blood examined by Dr. Ashburn.

May 16. Eruption possibly clearer. Patient feeling better. Bowels moved freely. Temperature 100°, respiration 20, pulse 80. Anorexia and illusions persist with prostration. Dr. Ashburn and Dr. Stiles made blood examination. No organisms found.

May 17. Headache continues, fever 101.4° F. Illusions and prostration. No eruption on back, fading on arms and face. General condition of anxiety.

May 18. Headache relieved, condition improved. Eruption fading. Temperature

100° F. Pulse 90. Sat in chair one hour. Complains of weakness.

May 19. Temperature normal. Pulse and respiration normal. Illusions disappear. Spots fading, only perceptible on limbs. Pains gone. Tongue still coated, appetite returning.

May 21. Patient sitting up. Weak and extremely nervous. Spots about entirely faded away. Appetite improved and sleeps well. No anatomical lesions apparent.

N. B.—Dr. Merrick's notes about the eruption covering the whole body evidently refers to its general distribution, as it was nowhere abundant, and was the lightest eruption occurring in any of the cases this year.

CASE V.

Patient of Dr. W. P. Mills. The notes, chart and treatment sheets pertaining to this case were unfortunately lost or destroyed by an attendant at Saint Patrick's Hospital, but much of the deficiency was at once made good from memory.

Miss Ellen McConnon, twenty-four years, single, occupation school-teacher. Family history: Parents, brothers and sisters are living and in good health. No hereditary disease in family. Personal history (previous to present illness): Measles in childhood. No other sickness. Been living at Woodman, in this county, since last September, teaching school. Kept house. Just finished menstruating. History previous to admission: Positive she has had no tick bites nor bites of any kind. Chill night of May 12. Headache and fever continued then to present. Came here next day. Eruption appeared May 15.

May 16. Symptoms: Quiet, calm facies, tongue has heavy, white, moist coat. Throat slightly sore, but shows no marked injection. No appetite. Bowels at present slightly constipated. Face slightly flushed. Spots on face, arms, hands, body, etc. Heart-sounds clear and regular. Breathing normal and sounds clear, front and back. Splenic dullness increased. Hepatic apparently diminished. Passing urine normally. Vomits practically everything taken by mouth. No nausea or pain in stomach. Headache present.

May 18. Condition good. Heart rapid and slightly weak and patient vomits a good deal, but otherwise is doing well. Bowels O. K. Slept well last night. Spots not brighter and seem to be fading. Mind clear; headache improved.

May 23. Informed to-day by Dr. Mills that patient continued to do well until afternoon of May 21, when her respiration ceased. As heart was acting well artificial respiration was resorted to. In five minutes patient breathed, roused and was quite rational. Failure of respiration continued to occur at intervals, patient apparently forgetting to breathe. She died about 7 A.M., May 22. Hypodermics of morphine apparently acted as respiratory stimulant (Dr. Mills). Urine examined by me, passed May 18, contained albumin, reddish-yellow, turbid. Acid—1028. No microscope examination.

Later note: Temperature on fourth day was 103° F. On day of death was 104° F. Treatment consisted principally of morphine in considerable doses. Diet was light, but almost everything was vomited unchanged soon after taking it. This was also true of beer, which the patient had requested.

CASE VI.

Case VI was a patient of Dr. Chas, Pixley's, whose narrative of the history is appended. The case was seen by me but once. It is remarkable for its occurrence in a new locality, no former cases having come from Harvey Creek, which is seven miles east of the region furnishing most cases, and for the prominence of the nervous symptoms. I feel sure that anywhere but here this case would have been called cerebro-spinal meningitis.

Floyd Warthen, aged twenty-one years. Personal history (previous to present illness): Working in lumber camp on Harvey Creek, where no spotted fever had previously been. Present illness: Bitten by tick at Harvey Creek about May 5 (date not exact). Bitten again after coming home. May 13, taken sick with chill, fever, general pain and aching. May 14, fell in door sick. Seen by Dr. Pixley May 16. Temperature 103.5° F. Slightly delirious. Nervous twitchings and trembling. Spots beginning to appear on flanks and legs. Unusually small. Temperature ranged higher in afternoon, to about 104° F. Kept growing worse, twitching and tossing all the time. Spots increased gradually and darkened until at death had blue areas the size of a hand

Became more sensitive and irritable until at last the slightest touch would cause violent jump, almost a convulsion. Breathing irregular when awake, regular sleeping. No cough. Had sore throat early and very slight nose bleed. Bowels O. K. Raving almost to time of death. Comatose for a few hours. Urine not examined. Physical examination negative except skin. (Rash when seen by me very fine.) Treatment: Calomel internally. Mercurial inunctions. Quinine five grains every four hours. Morphine as necessary. Formalin about 3 m. at end. Died Saturday night, May 21.

CASE VII.

This case was under the care of Dr. Howard, of Hamilton, Montana. I saw the case twice, on the evening of May 19 and morning of the 20th.

Guy Mace, aged ten years. Home west side of Bitter Root River, six miles north of Hamilton. Family history: Father killed; mother alive and well; one sister died of whooping-cough; one sister recovered from spotted fever under quinine, three years ago. Personal history (previous to present illness): Had chills and fever six years ago; measles and whooping-cough; no other sickness. History previous to admission: May 11, complained at noon of being sick. Had nausea and headache. Slept that afternoon and was feverish and had headache and stomach-ache. On washing neck on first day complained of tenderness. May 13, spots showed on hips. May 14, seen by Dr. Howard. Then stupid, restless, temperature 103.5° F.; pulse 115. Tongue had heavy, moist coat. No pain, except in bowels, from cathartic. No diarrhea, no cough, no sore throat. After medicine, bowels loose. Eaten practically nothing yet. Temperature from 103° F. in the evening to as low as 99° F. at morning. Vomiting more or less all through attack. Vomit greenish-yellow. Present condition: May 20, expression dull. Very restless and tossing. Nauseated much of the time. Nose bleed at times. Lips dry and blood-stained. Tongue dry, brown and somewhat glazed. Vomit contains blood, thought to be from nose. Eruption general, fine, purplish. Less marked on face. Neck shows discoloration, yellowish. Heart sounds clear. Respiration harsh, especially on right side. Spleen enlarged. May 21, convulsions at 8:00 o'clock P. M. Died at 2:00 A.M., May 22. The daily dosage of quinine to May 20, was: Forty-five, forty-five, thirty-six, forty-eight, thirty-two and thirty-five grains.

CASE VIII.

Under the care of Dr. Minshall, and was seen three times by me. It caused much comment at the time because of its occurrence in the city of Missoula, entirely outside of the usual territorial limits.

Ray Keith, aged sixteen years. Bitten by tick in four places on Sunday night, May 15, 1904. Slight chill in afternoon of May 17. Was sick the following night and day. Was seen by Dr. Gwinn the evening of the 18th. who cauterized and dressed the tick bites. Temperature at that time said to have been 102°. Severe headache, but no pain in neck or limbs. I took charge of the patient on May 19 at 5 P.M. Headache but no pain elsewhere. Tongue coated. Intense thirst but no nausea.

May 20. Condition much the same as yesterday. Bowels moving freely.

May 21. No headache, no pain, no spots at 10 A.M., but skin presents a motley appearance. At 2 P.M. spots appear quite distinctly on wrists and chest. By 5 P.M. all spots have disappeared. Skin of a decidedly motley appearanee.

May 22. No change from yesterday, appetite fairly good. Mind clear, no pain in any part of body.

Monday, May 23. No change since Saturday, except that patient sleeps more. Mind less active and some muttering during sleep.

May 24. Spots make appearance in decided manner over entire back, upper limbs and chest. Nervous symptoms increased, more dullness with slight delirium; in fact, sleeps most of the time.

May 25. Eruption all over body. Hyperesthesia of skin very marked. High nervous tension, muscles of back and limbs very rigid.

May 26. Condition much the same as yesterday, with more or less coma.

May 27. Almost complete coma, all nervous symptoms increased.

May 28. All conditions of two previous days more pronounced. A drink of water produces spasm of pharynx and diaphragm.

May 29. Previous conditions more

marked. Slight edema of right lung noticed at 8 P.M.

May 30. Both lungs quite edematous. Remained in this condition during day, dying at 9:15 P.M. No photophobia at any time, pupils reacting to light up to and including the 28th.

In the above case there are tick bites on May 14, chill on 16th; fever, slight sore throat, headache and eruption on the 23d. May 26, eruption profuse and measly everywhere except on face. Temperature 103° F. Delirious. Tongue, heavy white coat, becoming dry and brown. Abdomen generally tender, especially on right side. Hyperesthesia marked. Face flushed, conjunctiva injected. May 29. Comatose, spots purple, face still flushed. Respiration 50, pulse 138, temperature 103° F. Splenic dullness not obtainable. May 30, seen at 8:30 P.M. with Dr. Minshall and Dr. Stiles. Patient comatose, lungs filled with fluid, so that loud rattling was heard throughout room. Bubbling and crackling râles everywhere. Pulse weak, respirations 50. Patient evidently about to die and we decided to use bleeding, followed by intra-venous injection of 1:1000 formalin in normal salt solution. Patient died while this was being done. Informed by Dr. Minshall, nurse and mother that reflex excitability had been so intense for twenty-four hours that slight touch used in putting spoon to lips, sponging, etc., would cause spasms and rigidity of whole body.

CASE IX.

Occurred in the practice of Dr. Gwinn. George C. Taylor, aged thirty-two years. Occupation, farmer. Personal history: Mumps; measles; scarlatina. No typhoid. Five years ago was said to have spotted fever, which was aborted by Dr. Brice. Felt worse then, at beginning, than now. Did not have eruption. Been working in hills west of Florence all spring. Had very many tick bites which he cauterized with carbolic acid. May 25, had chill. That followed by fever and mild pain. Took calomel. Headache more or less since. Not constant. May 28, measly eruption, not thick, appeared about ankles. Now shows it on ankles, face, arms, possibly elsewhere. Nowhere marked. Tongue white, moist coat. Eyes suffused and light hurts them. Urinous (?) odor to breath. Bowels O. K. No cough, no nose-bleed, no especial discomfort. Urine passed about as usual. Spleen not demonstrably enlarged nor tender. Liver, heart and lungs O. K. Abdomen not tender. Shows eruption. June 1, no photophobia, no pain. Apparently jaundiced. Mind not so clear as at last note. Drs. Chowning, Stiles and myself found nothing in blood. Died June 2.

Dr. Gwinn's progress sheet in above case reads as follows: "Chills, fever and headache May 26. On 27th (twenty-four hours after chill) Dr. Brice saw him and gave calomel and fever powders. Came to Sisters' Hospital 28th. Examination shows tick bites, a small eruption all over body resembling tick fever eruption. Pulse 92, temperature 103.2° F. in axilla. Eruption first noted this A.M. (28th). Pupils large. No icterus. Tongue heavily coated. No eruption in mouth or throat. Diagnosis: *Spotted fever.* Treatment: Phenacetine sweat at noon first two days. Oil turpentine, 15 m. in muc. acacia t.i.d. Abundance of drink. Buttermilk. May 29, condition same. Pulse 100, temperature 103.2° F. May 30, about same. Pulse 104, temperature 103.2° F. Eruption getting darker. Parasite not found. May 31, A.M., pulse 104, temperature 103.4° axillary. Rested latter part of night. Injection of soapsuds caused bowel movement. Examination of eyes shows media a little blurred so that granular aspect of retina cannot be seen. Large retinal vessels quite plain, however. No swelling or blurring of disk. No hemorrhagic petechiæ in retina. No stiffness of neck, head can be readily brought forward. No herpes. No pain at all to-day. Not even headache and scarcely any yesterday. Strychnine one-fortieth grain every three hours, and as drink, water, lemonade, buttermilk and beer. Turpentine and phenacetine continued, together with keeping body and head cool. May 31, P.M. pulse 122, temperature 102.5°, rectal 104.8° F. Urine, sp. gr. 1022, acid, no sugar. Trace albumin. Some granular casts. No blood. Turpentine discontinued. Put patient on strychnine and digitalis and a dose of phenacetine. His mind has been wandering for two days, worse now. June 1, A.M. pulse 120, rectal temperature 102.8°. Phenacetine seems to lower fever without doing harm. Had no powder since last night. June 1, P.M., rubbing whole body frequently. Delirious. June 2, 9 A.M., pulse 130, weak and wiry. Gave morphine at 4 A.M., which partly relieves restlessness. Died June 2."

CASE X.

This was another case of Dr. Mills', in which the temperature-chart was lost at the hospital.

Jay Bartholomew, aged six years. June 7, 1904. Had measles. Family history good. Personal history (previous to present illness): Left Iowa six weeks ago. Been in Bozeman, Montana, five weeks. June 2, arrived in Missoula, Montana, and went on to Hamilton, Montana. Felt badly that night and ate no dinner. Ate none next day and vomited. Pain in abdomen, occiput and back of neck, lasting to present, but not marked. Fever. Seen by Dr. McGrath June 5. June 6, eruption appeared.

Symptoms: Bright and intelligent. Face flushed, eyes injected, slightest convergent strabismus. Tongue white and moist. Cervical glands somewhat enlarged. Throat and mouth show no eruption or soreness. Some cough present. Abdomen painful and tender. Measly eruption on hands, arms, feet, legs and buttocks, palms and soles. Pain and tenderness in abdomen, occiput and neck. Bowels loose. Blood examination: Fresh specimen, negative. Large diplococcus in stain, looking like contamination. June 8, taking calomel and paregoric and room darkened. Has slept much of the time. Free from pain in neck. Still has it in abdomen. Harsh breathing over right lower lobe. June 9, not seen by me. Dr. Mills reported spinal tenderness again. Pain in abdomen still. Spots not darkened. Condition much the same. June 10, appearance excellent. Very slight convergent squint still present. Spots fading on legs and body, not on soles. Pain still present in neck and abdomen. Tongue lightly coated. Knee jerks normal. Mother states that last night he cried that his eye was turning out. She looked and divergent squint (outward rotation of left eye) was present. She calmed him to sleep and the outward rotation was not present this morning. June 12, still complaining somewhat of pain in back and belly. Spots fading. Doing well. June 15, pain in knees. Temperature normal. Patient sitting up in bed and eating well. Spots all disappeared but a few discernible on palms. June 17, patient left hospital practically well.

CASE XI.

Also a case of Dr. W. P. Mills', and was of special interest because of the short time the patient had been here, the severity of the nervous symptoms, the miscarriage, and especially the autopsy.

Mrs. Eggenthaler, aged twenty-three years, married. One child living, nine months of age. Now pregnant in the sixth month. Patient born in the Tyrol and arrived in this county four weeks ago. Came to Missoula, Montana, nineteen days ago. Remained in town five days and then moved to a ranch purchased on the Lo Lo. Saturday evening, June 18, patient felt entirely well. That day she had merely tasted and refused to eat veal because of a bad odor. She had gone barefooted during the day and felt chilly, but it was a very cold day. That night she had occipital headache and could not sleep. Sunday, the 19th, she vomited. All day she ate nothing and felt feverish. At 9:30 P.M. she started for Missoula, reaching here at 1 A.M. Slept at hotel and came to hospital this morning. On her way to town she vomited bitter fluid. At present she has frontal headache, some tenderness of back of neck. Many abrasions on feet and legs, all said to be due to scratching mosquito bites. Tick bites denied. Eyes slightly injected; otherwise normal. No tenderness of eyeballs, scalp or general surface. Tongue moist and shows a moderate white coating. Spleen not demonstrably enlarged and not tender. Bowels regular. Temperature 101° F., pulse 105. Patient has had a slight cough for two weeks. Examination of lungs negative. Heart sounds normal.

June 22. Condition not so good. Pulse more rapid. Scattered measly eruption on body and limbs. Examination of blood shows no protozoa. Leucocyte count, 15,600.

June 23. Spleen not demonstrably enlarged. Fetal movements felt. Examination of lungs shows decidedly harsh respiratory sounds over the left apex, and anteriorly and posteriorly and over right lung posteriorly. Tongue red and moist, with streaks. Eruption abundant on body, limbs and face. Measly; not petechial. Urinous(?) odor of breath.

June 24. Had respiratory depression

last night, respiration falling to 8. Fetal movements felt at noon to day. Spinal puncture made at 4:30 P.M., negative. Patient's general condition not so good as yesterday. Face somewhat dusky, spots darker but not hemorrhagic. Sordes on lips and tongue. Patient very nervous. Urine examined; reddish-yellow, turbid; heavy yellowish precipitate. Acid. Sp. gr. 1018. Albumin present in small amount. No sugar. No bile (Gmelin). Urea 3½ per cent. Abundant vaginal epithelium and small round epithelium. Numerous blood, epithelial and granular casts. Free red and white blood cells. Much granular débris.

June 25. Condition worse. Delirium constant and marked. Only six ounces of urine in past twenty-four hours, drawn by catheter. No fetal movements felt. Pulse very rapid and weak and cyanosis present.

June 26. Miscarriage at 2:00 A.M. today. Very rapid and not followed by much bleeding. Child lived an hour and showed no spots. Patient very restless and constantly delirious. at times violent. Alcohol seems to aggravate this. Face cyanosed, spots purple and somewhat increased in size. Urine eight ounces in past twenty-four hours.

June 27. Patient was bled last evening to the amount of twelve ounces, with marked temporary improvement and a good night's rest followed. This morning delirious and very restless. Resists all attempts at passive motion. Urine passed involuntarily. Pupils widely dilated, notwithstanding the administration of large amounts of morphine. Yesterday had nine grains between 2 and 10 P.M. Face and spots not so dusky as yesterday. Lungs examined anteriorly and found as at last note. Harsh sounds at right apex.

June 28. Bled one ounce last night. Very restless and delirious this morning. Morphine four and a half grains from 7 to 10 A.M., with no apparent effect. Lungs edematous. Patient died at 11:30 o'clock A.M., June 28, 1904.

Autopsy on this case follows:

"Body of well-nourished woman, showing no marks of violence except some small scab bed-abrasions on the leg, phlebotomy incision on arm and needle punctures below left breast and on arms. Purple discoloration on dependent portions of body. All measly eruption has disappeared from the upper portion of the body. Posterior of body blue; shows many spots very dark blue or purple, from 1 to 3 or 4 m.m. in diameter. Over the left buttock and coccyx are a few purple areas 1x4 to 6 cm. that look like extravasations. Slight bloody discharge from vagina. Calvarium being removed shows outer surface of dura injected, but otherwise normal. Removal of dura shows some adhesions at the vertex between the membranes and the brain substance. Area of adhesions small. Veins on surface of brain are distended with blood. No pus or lymph seen. Base of skull and dura normal. Ventricles opened and appear normal except for some distension of the veins. Small amount of bloody serum, blood of which probably came from cut veins in one lateral ventricle. Cerebrum on section appears about normal. Basal ganglia on section appear normal. Section of medulla, pons and cerebellum shows nothing abnormal. Incision from manubrium to pubis shows good amount of subcutaneous fat. Muscles well developed and of good color. Peritoneum normal. Removal of sternum shows remnants of thymus gland. Pleural cavities normal, except a few adhesions between the left lung and pericardium. Pericardium contains an apparent excess of clear straw-colored serum. Heart distended with blood. Left ventricle partially contracted. Removal of right lung shows it lead color on upper surface, very dark posteriorly. Several dark spots one-eighth inch in diameter, apparently old, anteriorly. Entire lung edematous. Posterior portion extremely congested; in a condition of hypostatic pneumonia and sinks in water. Bronchial glands enlarged and black. Removal of left lung shows same appearance as right except the pneumonic area is less marked and extensive. Heart seems normal, muscles well nourished. Left side contains chicken fat and red clots. Valves normal. Right side contains a few small clots, white and red. Valves apparently normal. First part of aorta normal. Arch of aorta seems unusually small, just permitting little finger to enter. Examination of abdomen shows peritoneum normal, considerable amount of straw-colored serum present. Organs in normal relation and position. Spleen enlarged and bound down by posterior adhesion to stomach. Soft, easily torn, slaty purple in color. Liver apparently somewhat enlarged. Paler than usual, with yellowish tinge. Section of liver is decidedly pale. What little blood flows is also very pale. Tissue is firm, though not apparently fibrous. Gall-bladder distended with fluid bile, duct patulous. No gall-stones. Gross appearance of suprarenals shows them apparently normal. Size of left kidney, 13x7x6 cm. Section shows the cortex little if at all altered. Capsule is adherent, carrying substance in removal. Areas of distinct pallor scattered over the surface. Right kidney 12x7 cm. Cortex pale and thickened (Dr. Mills thinks it normal). Capsule adherent in same way. Pancreas apparently normal. Stomach shows injection about cardiac end; otherwise apparently normal. Intestines removed, opened and washed. Upper portion appears normal. Solitary glands and Peyer's patches appear somewhat swollen. Cecum shows considerable injection, which continues more or less throughout the colon. The uterus is enlarged to the size of two fists and measures 11 cm. broad, 13 cm. long; soft, normal in appearance for a recently delivered uterus. The left ovary normal, as is the right, which contains corpus luteum. On section womb appears normal. Aspiration of spinal canal through the lumbar region withdrew one-half ounce (15 c.c.) clear spinal fluid. Opening canal showed the dura apparently normal. Spinal cord removed. On removing dura from cord showed considerable injection of vessels, which was probably hypostatic. No lymph or other evidence of inflammation. Cross section of the cord at one-inch intervals shows nothing abnormal. No scales were present and none of the organs could be weighed."

Several other cases were seen through the courtesy of Dr. Parsons, Dr. Brice, Dr. Glasgow, Dr. Buckley and Dr. Mills, but as they were either cases that proved not to be spotted fever, or cases in which there was much room for doubt, I shall for the present exclude them from consideration. Some of these were the so-called "local infections." The tick bite causes a small wound which may be infected at the time or later, causing in at least two cases a well-marked lymphangitis.

In all of the above cases that I saw I made thorough blood examinations, of both fresh and stained specimens. As Dr. Stiles and I did this work together, each helping and acting as a check upon the other, I shall say that *we* made the examinations. We spent many hours on each case, and in the aggregate many days in examining fresh blood, and many hours and days in examining specimens stained by Romanowski's, Marchand's, Jenner's, Wright's, Goldhorn's and Chenzinsky's methods, using Zeiss, Leitz, Spencer and B. & L. lenses, and we did not find the *piroplasma hominis* nor any other protozoon in any specimen examined.

We consulted the physicians of Missoula, who had seen the organism as demonstrated by Drs. Wilson and Anderson, but in every instance what was shown us as the organism proved, in our opinion, to be something else. (I myself was shown one specimen last year which I at the time thought to be a vacuole, but as many men were present and I looked for other opportunities of seeing the organism I said nothing.)

The last of May a slide from case 125 (Wilson and Chowning), stained by Nocard's method, was received from Dr. Wilson by Dr. Stiles. It showed what we had seen before. On May 31 Dr. Chowning arrived in Missoula, and the next day he, Dr. Stiles and myself examined the fresh blood of Mr. T—— (case No. 9, this series), without finding the organism. On June 7 we all also examined the fresh blood of case 10, with negative results. Dr. Chowning also stained by Nocard's method, dried blood from the earlier cases, with the same results.

I am therefore of the opinion, as the result of our long and constant searching in these ten cases, and the careful examination of our own and others' blood, that the spotted fever occurring in this valley is not characterized by the presence in the blood of a protozoon resembling "*piroplasma bigeminum*," nor of any other protozoon. There are many bodies or apparent bodies found in the blood in this disease which might be taken for the various stages described for *piroplasma hominis*.

Phase I (Montana State Board of Health) might be accounted for in fresh blood by vacuoles, micrococci, blood dust, blood plates, etc., seen over or under red cells;

in stained specimens by basophilic granular degeneration of the red cells, by sediment, by blood plates, etc., over or underlying red cells.

Phase 2 is readily, and I think thoroughly, accounted for in fresh blood by vacuoles, by blood plates and by pieces of fragmented red cells underlying sound reds; in stained blood by blood plates, and, as seemed especially the case in the slide sent by Dr. Wilson, by an increase in nucleated reds. The blood platelets and nucleated reds are, I believe, increased in this disease, and very many of the plates are seen apparently within the red cells. These, when stained by some methods, might readily be mistaken for intra-cellular organisms, but in specimens stained by Wright's method they are so clearly differentiated, so evidently identical with plates seen outside the cells, and with plate 6 accompanying Vaughn's article in the *Journal of Medical Research* for December, 1903, so easily traceable by intermediate forms and stages to Wilson's and Chowning's phase 2, as to leave little doubt in my mind that they are phase 2. Stained specimens of healthy new-born infants' blood give practically the picture of spotted fever blood.

Phase 3 is accounted for by blood dust and micrococci, and, as Wilson and Chowning have dropped this phase in their last publication, it does not seem unfair to infer they have come to that conclusion.

Each and every one of the above mentioned sources of error was at one time or another mistaken by Dr. Stiles and myself. At times only further study or a control examination of normal blood would dispel the error. So absolute was my faith in the protozoon that, though discouraged and doubtful because of my failure to find it, I did not entirely give up the hope of doing so until after seeing Dr. Wilson's slide and witnessing Dr. Chowning's failure to find it.

I estimate that Dr. Stiles and I spent on an average as much as ten hours on fresh blood on nearly every case and quite as much on stained preparations. Our failure to find the protozoon was not due to lack of earnest effort, to carelessness in technique nor to lack of opportunity. The conclusion left to me is that the organism does not characterize the disease.

To further test the matter four rabbits were injected with blood from undoubted cases of the disease and their blood later examined by Dr. Stiles, Dr. Chowning and myself with negative results. (Rabbits are said by Wilson and Chowning to be inoculable.) Dr. Stiles and I made a trip to Hamilton, Montana, a distance of fifty miles, through the country from which practically all the cases have come, shooting and examining squirrels, chipmunks and gophers on the way. We found the gophers infested with fleas, lice, and in two instances ticks, and occasionally infected with a trypanasome. The "two large parasites outside the red cells," described by Wilson and Chowning, we readily found in the gopher blood, and Dr. Chowning identified them. One of them seems to be a trypanasome, though Wilson and Chowning regard it as filarial. The other is an intestinal parasite which is apparently normal for the gopher, and which occurs in such immense numbers that if the gopher be shot in the belly, or if the belly be opened for the purpose of drawing blood, it is almost sure to be found in the blood. It is very large and does look protozoän, though bacillary in shape. Dr. Stiles suggested that it *may* be *bacterioidomonas*, Kunstler, but that is yet to be determined. The intra-corpuscular parasite we did not find. If now there is no protozoon organism in the blood to cause this disease, the tick and gopher hypothesis would seem to die of inanition, as it was merely a hypothesis advanced to account for the protozoon infection, but its effects have been so great and so serious that it merits discussion.

Economically, I think it safe to say it has been more disastrous to the infected region than the disease itself. Ticks are so common it is nearly impossible for a man working out of doors to avoid their bites, while at the same time they, if causing the disease, constitute a cause so tangible and real that the dissemination of this hypothesis excited a fear closely akin to terror. Land values were affected, probably a majority of the people on the west bank of the Bitter Root River desiring to sell and nobody willing to buy. Saw mills have been unable to procure a sufficiency of hands, and some families have sacrificed their property in order to get away as soon as possible. People who formerly frequented that region for business or pleasure could in most instances not now be induced to go there, except on most urgent business, during the tick season.

This is a matter that will probably be much better discussed by Dr. Stiles, but I would call attention to the following facts:

1. The vast majority of the people in the endemic area are bitten by ticks every year.

2. The tick supposed to convey the infection (*D. Andersoni*) is not by any means limited to that region.

3. Such ticks are daily, during the spring months, carried from that region to other regions by horses, cattle, men, dogs, cats, in wood, hay, clothes, etc.

4. The gopher or spermophile is not more abundant in that region than in others; in fact, as nearly as we could judge, Dr. Stiles and I thought it relatively rare in the endemic region.

5. The ticks were this year (1904) found in February when the ground had been covered with snow since November 9, thus making it seem probable that they winter in the open. The gophers remain at least six months under ground.

6. The spotted fever season does not closely correspond with either the tick or the gopher season.

7. The occurrence this year of three cases in intelligent people who deny the history of tick bites. These denials in any other year would be of little value, but this year, when ticks have been dreaded by all, when the people in question were in terror about them and had carefully watched for them, when careful examination of the body showed no traces of bites, the statements must be given due weight. Furthermore, one case (No. 10) gave no history of a bite, but presented a small abrasion which might have been one; and another case (No. 9) gave a history of many bites and showed the marks of many, but the patient had carried pure carbolic acid with him at his work and had cauterized each wound as received. Case 11 denied tick bites, but presented many small abrasions on arms, feet and legs, said to be due to scratching mosquito bites.

Therefore, even without the failure of the protozoon to materialize, there is strong evidence against the tick hypothesis, and I think that, in view of its economic effects, it should be shelved at the earliest possible date.

Two other points that may bear against it have been elicited by inquiry among many of the physicians of the valley. The first is that the boundary of the endemic area is not formed by the river, but by the margin of the "bench" or foothills. People living in the river bottom, even on the west side, feel secure. Surely, both gophers and ticks cross the line. The other point is that, so far as I can learn, no person has yet contracted the disease from a single day's exposure on the foothills. This is important, as a large number of people live on the east side of the river during the usual spotted fever season and cross to their west side ranches to work during the day (Stevensville, Montana).

Exposure or residence on the "bench" might for some reason be more dangerous than in other near places because of the difference in the development. The east side of the valley is cleared thoroughly, highly cultivated, well settled and in thrift and prosperity resembles a fat Pennsylvania or Ohio Valley. The west side, especially the "bench," is not nearly so advanced. Much of it is not cleared at all, very little is well cultivated. The houses, as a rule, are poor and there is a difference of many years in the advancement of the two sides.

The non-appearance of piroplasma would do away with the theoretical grounds upon which quinine was recommended in treatment, but as it would not dispose of the statement that last year five cases treated by quinine recovered and five cases treated without it died, it is necessary to call attention to the fact that all cases treated this year with quinine (five in number) died, while none of the cases recovering (at least two in number) had any quinine. Furthermore, it was my impression in at least two cases that I saw distinct harm from the quinine. My personal opinion is that I have seen no treatment that has any beneficial effect that could be called in any way specific. Of course, oxygen, strychnine, morphine, etc., may have the usual effects in relieving certain symptoms, and calomel probably acts beneficially by unloading the bowels, but that any one of them or any other drug has shown any direct beneficial effects I cannot at present believe.

The cases that recovered this year were both mild cases, in which the temperature either did not go high, or, if high, it speedily fell; the spots did not darken, and the cases from the first day to the last were not in a critical condition at any time. Of course, it is possible that the treatment prevented the onset of severe symptoms, but when we consider the differences in the treatment of the two cases that seems doubtful. That specific effects should be possessed by treatments so different as mixed antisyphilitic treatment in very moderate doses, and opium, seems highly improbable.

Having thus far considered *piroplasmosis hominis*, tick fever, or spotted fever, and having reached the conclusion that it is neither *piroplasmosis hominis* nor tick fever, but one name, its old and common one of spotted fever, remains, and the question arises as to its nature. That question I am not prepared to answer, nor do I think it can be answered without further careful and possibly prolonged investigation.

Spotted fever usually means either typhus or acute cerebro-spinal meningitis. The former seems definitely excluded from consideration here by the absolute lack of any evidence of contagiousness, though several physicians have spoken of the resemblance of the symptoms in many cases. Cerebro-spinal meningitis has usually been thought to be excluded by the seasonal occurrence, the localization of the disease, the absence or mildness of nervous symptoms, and for two years past the presence of a protozoon in the blood.

A careful consideration of the history of that disease seems to indicate, however, that the seasonal occurrence and marked localization heretofore would be as characteristic of it as of any known disease, while the occurrence of five cases in entirely new localities this year, all of which, except case No. 1, were seen by Dr. Stiles and myself, without mentioning cases at Livingston, Dillon, etc., very greatly weakens the localization argument, as the occurrence of two fatal cases in September, 1903, shows clearly that the disease is not necessarily limited to the months heretofore thought to show all cases. In like manner a consideration of this year's cases weakens the belief that nervous symptoms are not marked. They have this year been quite prominent. Every case has presented headache and photophobia; in some cases it has been severe. Such marked nervous symptoms as cerebral vomiting, pain and tenderness along the spine, especially at the back of the neck, abdominal pain, joint and muscle pains, very great hyperesthesia, squint, delirium, convulsions and coma, have been found. The least nervous of all this year's cases were case No. 5 and case No. 9. The former presented severe headache, vomiting without nausea or indigestion, and later respiratory failure. Case No. 9 presented at first headache and photophobia, and later coma, which lasted for some hours. Dr. Stiles and I, on June 16, visited the house where case 5 developed and found that there had certainly been two and probably three cases there. On the same trip we learned that three cases occurred in one house in 1902, in the family of Mr. Andrew Magee. The descriptions given by Mr. Magee, who was one of the sufferers, and his wife, gave the nervous symptoms great prominence. Each of the three cases were attributed by them to exposure to wet and cold, which in each case preceded the chill.

I greatly regret not having more leucocyte counts to submit, but in the early cases I was looking solely for the organism and in the later cases, except case No. 11, inability to obtain sufficient or any blood for the purpose prevented my making counts. Examination of the fresh and dried blood in smear preparations seems in most cases to show leucocytosis, but as pressure was used to greater or less extent in nearly all cases, to get as free a flow as possible from a single prick, the appearance may be misleading. Case No. 11 gave a leucocyte count of 15,600. The post-mortem findings in this case were something of a surprise to all who had watched the case. A suspicion that the disease was cerebro-spinal meningitis had been present in my mind for some time, and had been growing until it was almost a belief.

The last case presented such marked nervous symptoms throughout and showed such a tolerance for morphine (nine grains in eight hours and four and a half grains in two hours without noticeable effect) that I should *not* have been surprised to find marked lesions of the central nervous system. Instead, there was nothing. Possibly the microscope may reveal some lesions there, but that of four fatal cases of cerebro-spinal meningitis (three autopsies by Wilson and Chowning) none should show gross lesions would seem to constitute so great an improbability as to exclude that disease from the serious consideration which the symptoms alone would warrant.

In conclusion, I may sum up my opinion as to the results of my investigation as follows:

1. There is here a very fatal "spotted fever" which is not typhus nor cerebro-spinal meningitis; not *piroplasmosis hominis* nor *tick fever*.
2. Its cause, method of infection and incubation period are not known.
3. No treatment that is at all specific or usually beneficial is known.

REFERENCES.

1. Montana State Board of Health, First Biennial Report.
2. Journal of Infectious Diseases, Vol. i, No. 1.
3. Bull. No. 14, Marine-Hospital and Public-Health Service.

DERMATOLOGIC MALINGERING.*

With Report of Six Cases of Feigned or Factitious Eruption.

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Malingering, which always has and always will maintain for itself a prominent rôle in general medicine, is likewise frequently encountered in dermatology, and is of no little importance and interest from a medical and psychological standpoint.

One of the most interesting and remarkable examples in general medicine was the individual who simulated locomotor ataxia, deceiving the great Charcot and many other prominent neurologists, and was finally miraculously cured at Lourdes, to the great mortification of the medical profession; the lucky revelation was the result of pique at his spiritual doctors, for their relentless prosecution for the theft of money.

Dermatologic malingering, though probably less frequently encountered than in general medicine, and actuated for the most part by similar motives—the escape of work or duty, the excitation of sympathy and interest, the acquisition of charity or pecuniary gain, or the indirect result of a disordered brain—possesses the additional interest that the deception, however carefully conceived or skillfully executed, is relatively more evident, because its proper recognition rests solely with the unaided eye.

Feigned eruptions are much more frequent and important than their limited mention in most dermatologic journals and text-books would lead us to imagine. The reasons for this are obvious. In the first place, they are easily overlooked and mistaken for other affections; secondly, there is at present no uniform nomenclature, and the cases thus far recorded have been variously named "dermatitis artefacta,[6]" "dermatitis factitia,[1]" "factitious eruptions,[2 5 7]" "factitious ulcerations,[3]" "feigned eruption,[8]" "dermato-neurosis," "erythematosa hysterica,[9]" bleeding stigmata, etc., etc. A source of similar error is due to the fact that many writers (Kaposi, Colcott Fox, Renaut, Doutrepont, Bayet, Sangster, Gaucher, *et al.*), have attributed to the affection a trophoneurotic character, occurring as it does, for the most part, in highly neurotic and hysterical individuals, and have classed the cases under the deceptive titles of "zoster gangrenosa atypicus, erythema gangrenosum, urticaria gangrenosa, acute multiple gangrene of the skin, disseminated and successive gangrene, neurotic excoriations, gangrenous pemphigus eruptions, etc. The frequency is probably less in this country, for two obvious reasons, than in many of the foreign countries; two of the leading motives which actuate patients, escape of duty and work, are absent, or largely removed by the absence of a conscript army service and the relative better social condition. Escape of work and army service are the motives which more commonly actuate men, whereas women, and more usually women who are very hysterical, resort to this form of subterfuge in order to elicit sympathy, to excite interest or gain notoriety. My personal experience conforms to this dictum, for the six cases which I wish to report have all been women. Inasmuch as a large class of women of to-day are wage-earners and self-sustaining, escape of work will apply as a motive almost as readily to them as to the males. One case which I wish to include exemplifies an additional motive, which is rarely attributable to this affection—the performance of penance.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11-13, 1904.

If feigned eruptions were extremely infrequent, it would not serve to detach the considerable importance of their proper and prompt recognition in order to prevent the distressing embarrassment of a mistaken diagnosis. There is probably no dermatologic affection which more readily permits a mistake in diagnosis, not only because of its manifold character, variety of lesion, distribution, method of production, the fraud and deception practiced by the patient, but because it is so apt to be unsuspected and thereby easily overlooked. In this and some other particulars it bears a close resemblance to drug eruptions, and it is my steadfast rule in all obscure or puzzling forms of dermatologic affections to carefully eliminate these two elements. It is a rule which has served well, and which on several occasions saved me from otherwise embarrassing blunders.

Feigned eruptions, even though unsuspected, are ofttimes not difficult of diagnosis. The location is usually capriciously distributed over accessible parts of the body, face, knees, legs and left arm and hand. In addition, the atypical character of the individual lesion, in size, form, outline, color, multiplicity, etc., is often suggestive, while such points as the recurring character of the lesions, the uniqueness of the pathologic picture, and its marked dissimilarity from the more common and better known dermatoses, together with the peculiar temperament or condition of the individual, impart an *ensemble* which renders the detection relatively easy.

In the majority of cases the evidence is so plain that the admission on the part of the patient or the detection of the act is not necessary for a correct diagnosis. In most cases, even when the patient is confronted with the most damaging proof, an admission is not forthcoming, and the patient will protest his or her innocence, or profess ignorance to the very extreme. This is in the very nature of the expected, inasmuch as the individuals are not only of a nervous and hysterical temperament, but are also actuated, from the very beginning, by a deep sense of deception and fraud. If, however, a suspect is once strongly accused, even though unconfirmed by an admission, the act is almost invariably discontinued and recovery ensues. In illustration of these and many other interesting features of this class of cases, I wish to report the following six cases, five of whom have been presented on a former occasion to the Ohio Valley Medical Association.

CASE I.

Occurred in Miss F. C., aged fourteen years, who was referred to me on April 26, 1902, because of the peculiar character of the eruption, which had persisted for the past few weeks over left arm and shoulder and right side of neck. On examination, left forearm, arm and shoulder were covered with six longitudinal denuded areas, each about three to four inches in length, and about one and one-half inches in breadth, in various stages of denudation and repair. Several smaller areas were also present over the right side of the neck; the rest of the body was entirely spared, and the extensor surface of the left arm was likewise uninvolved. Some of the lesions were fresh and exuded a slight amount of serum, faintly tinged with blood; others were covered with a thin sero-sanguinolent crust; others gave evidence of their former presence by a faint discoloration and pigmentation of the skin. The lesions were thoroughly different from those of any well-known dermatosis, or any of spontaneous origin (Fig. I). They bore an artificial appearance as if they had been produced by scraping away the epidermis with the edge of a piece of glass, or some similar instrument, not only because of their conventional form, character of lesion, parallel arrangement, and distribution over accessible areas, but also because one extremity, where the start was made by placing the instrument

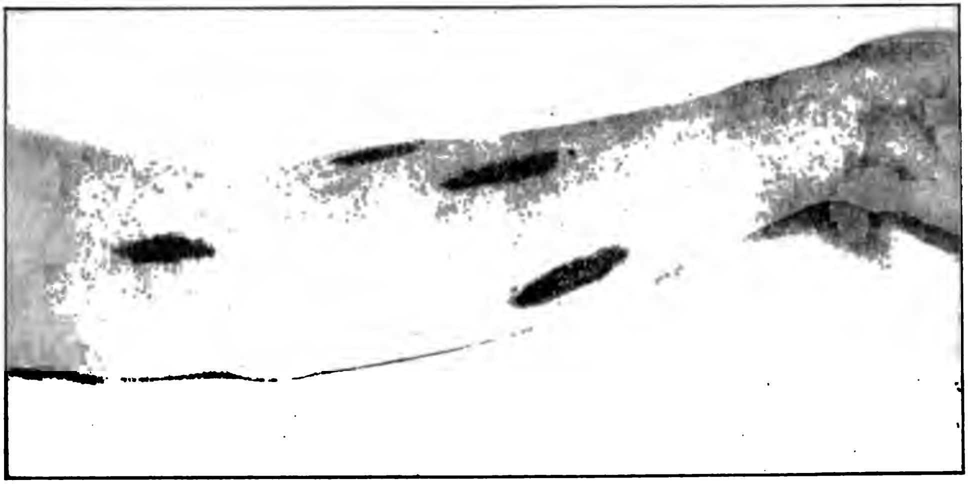


FIG. I.—Excoriations due to scraping skin with sharp instrument (Case I.)

against the skin, was rectangular, while the other end tapered to a point. In addition, the patient was hysterical in nature, had been guilty of running away from home, and often exhibited violent fits of temper. A genuine exhibition of the latter occurred at the Cincinnati Academy of Medicine, when the patient was presented to that body on April 28, 1902. The lesions would usually appear over night, one or two at a time, at intervals of two or three days. Under the protective influence of a few applications of zinc-gelatine, which was applied constantly for about ten days, the old lesions disappeared and the new ones ceased to form. Patient was then confronted with the charge that the lesions had been self-inflicted, and though she indignantly denied the accusation, it inspired sufficient moral effect to bring the practice to a timely end.

CASE II.

Miss L. D., nurse, Dayton, O., was admitted to the Presbyterian Hospital May 25, 1902. Patient stated that her affection began about three years previously, and that she had been under the care of fourteen different physicians, not only in Dayton, but elsewhere, and that the condition had been almost universally diagnosed tuberculosis or lupus, and that the prognosis was unfavorable, not only as regarded the affected left arm, but also life. An examination revealed that the case bore a striking resemblance to the preceding case. The flexor surface of the left arm, from the hand to the shoulder, was extensively pigmented, and was the site of four longitudinal bands of mild inflammation, arranged parallel to the long axis of the arm, and similar in dimensions to the denuded areas of the preceding case. The most recent lesion was in a weeping condition; the others were in various stages of crust formation and desquamation. In addition, there were six other oblong patches, each about three inches in length, in various stages of faint desquamation and pigmentation, while the entire flexor surface of the left arm was faintly pigmented, evidence of former patches of inflammation. The lesions were not as sharply outlined or clear cut as in the preceding case, and bore evidence of having been induced by the application of some caustic substance.

On May 27 a fresh lesion appeared, beginning as an erythema and rapidly becoming a bulla. A crinolin bandage was then applied to this arm for a week, and when the patient was discharged, June 5, 1902, all active manifestations ceased. An accusation that it was self-inflicted, and a threat that the parents would be so informed if the condition persisted, effected a recovery, but failed to elicit a confession, and the patient could not be induced to reveal the manner in which they were inflicted.

The following extracts from two letters, written by the patient after her discharge and one written by her mother, while patient was an inmate of the hospital, will serve to explain the temperament and the impulses which actuated the patient, and are at the same time a confirmation and a confession. The mother wrote: "I am anxious to hear your opinion of Lucy's arm. She left home without telling me where she was going. . . . . Lucy has been a constant care from babyhood, and I think it is her mental condition which has turned her against a tender and loving mother. She is unfit to be out in the world alone, and everything possible has been done for her. I truly hope that you can cure her arm, but the doctors here have very little hope. One of her manias has been to have it removed, but I have been told that that might prove fatal, therefore I would not give my consent." The patient wrote under date of June 16, 1902: "Remember your promise not to tell. I am to take a position to-morrow; remember what you told me, that you would say nothing about it, etc." Under date of August 22, 1902, she wrote again: "Will you please send me a letter, stating that my hand is perfectly cured, as I wish to re-enter a training school, and they won't accept me because they think that it may come back again. Remember your promise not to tell anyone."

CASE III.

Occurred in Miss R. F., single, aged twenty two years, from Van Wert, O., who was referred to me for consultation, June, 1900, because of a peculiar rose-red discoloration of the palm of the left hand, together with two broad linear stripes, extending upon the flexor aspect of the forearm as far as the elbow. The condition was associated with a very profuse desquamation, the desquamated epidermis sharing in the rose red discoloration. The individual was of a highly nervous and hysterical temperament, and the process during its two years' duration had elicited widespread and local interest. Many of the most prominent physicians of that part of the State were directly or indirectly interested in the case, but a satisfactory explanation was not forthcoming. The opinions prevailed that it was an erysipelatous infection or a form of tuberculosis, and when an amputation at the elbow was suggested special advice was elicited. When case was first seen, red chromidrosis (colored sweating), promptly suggested itself, but the peculiar distribution, involvment of left hand, the unaccountable desquamation, the neurotic temperament of the patient, prompted the diagnosis of feigned eruption. Patient indignantly refuted the accusation that the condition was self-inflicted, but when the diagnosis was confirmed by a two weeks' confinement in a hospital, with a plaster of-paris covering, during which interval the condition completely cleared, patient acknowledged, amid tears, that the desquamation had been induced by the application of crude carbolic acid, and the discoloration by staining the epidermis with artificial rose petals, dipped in water.

CASE IV.

Miss J. P., aged twenty-one years, a frail, anemic, delicate-looking individual, of a neurotic and hysterical temperament, and an only and very much indulged child, was brought to my notice for the first time August 17, 1901, for an inflammation of the upper lip, of several years' duration. Patient was originally from an Indiana town of 15,000 inhabitants, and her affection had completely baffled the attentions of all the local physicians, who had diagnosed the case variously as epithelioma, lupus, etc., etc.

Various forms of treatment—cauterization, caustic pastes, the X-ray, etc.—had been assidiously applied without results. Patient's condition obliged her to absent herself from her studies in the public schools and compelled her parents to take residence in Cincinnati in order to insure proper attention. On the occasion of the patient's first visit the lip was somewhat swollen, reddened and inflamed, and covered with a thick mass of sero-sanguinolent crusts. Under a mild indifferent therapy the condition rapidly improved and assumed almost a normal appearance. Before complete recovery was assured an exacerbation took place, characterized by an intense reaction, swelling, redness, crust formation, which likewise gradually subsided and improved, and likewise was followed by repeated exacerbations and remissions.

The condition bore no resemblance to lupus or epithelioma, and was so unlike all ordinary affections of the mucous membrane of the lips that it was somewhat puzzling to determine its exact nature. A simple dermatitis, or inflammation of the lip from an unknown cause, was diagnosed, which was confirmed by Dr. L. E. Schmidt, of Chicago, who saw the case in consultation in September, 1901. The deception was so carefully conceived and so innocently practiced that its feigned character was not suspected for a period of almost six months, although patient was carefully watched and closely studied. The accusation was followed in this case by the usual denial, and, although the nature of the agent and its method of employment was not determined, the intimation that it was feigned was followed by immediate improvement and ultimate recovery. Patient's recovery has been permanent, and she is now happily married.

CASE V.

This case is of particular interest, not only because of its unusual character, but also because of the peculiar motive which actuated the patient.

N. T., aged twenty-one years, was admitted to the Cincinnati Hospital in July, 1895, and came to my notice during my term of service as interne to the institution in 1895–1896. She came to the institution as an inmate from the Baum Street Convent, and the Mother Superior, who placed her in my charge, stated that for the past two years, from almost the time she had become an inmate of the convent, the girl developed a great many sore places, particularly over the knees and lower extremities, which at intervals confined her to bed and rendered locomotion irksome and painful. Rest in bed and the attention she received from the convent physicians always relieved her, but only temporarily, and the present attack was so severe that the authorities determined that she should be placed in a public hospital. Examination revealed a large number of superficial abscesses, which were limited to the lower extremities, and for the most part over the knees. In addition, there were a great number of indurations, many with a superficial brownish or bluish-red discoloration. A few lesions were also present over the upper extremity, principally over the left

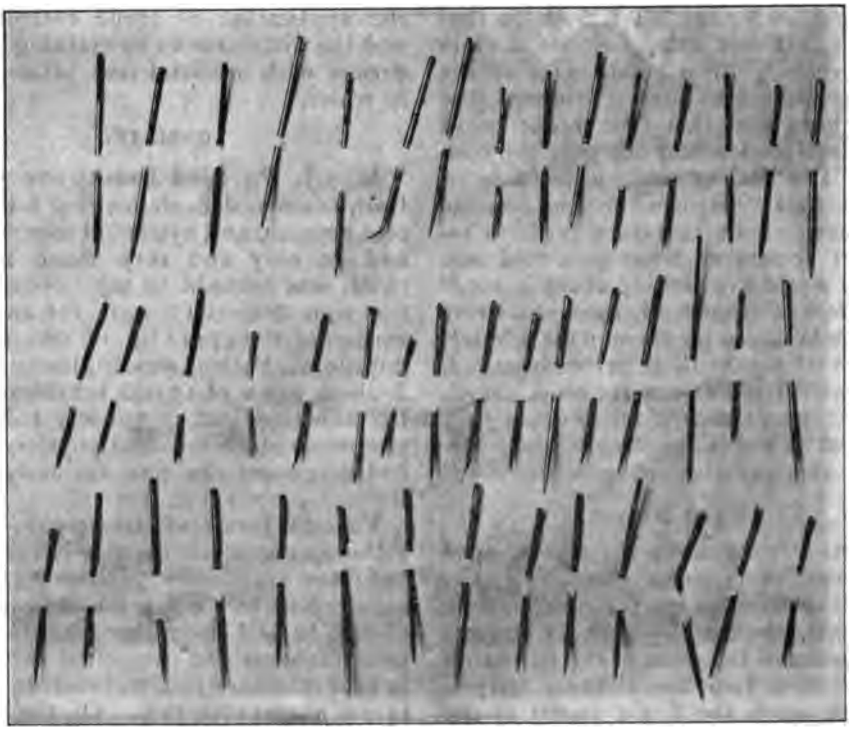


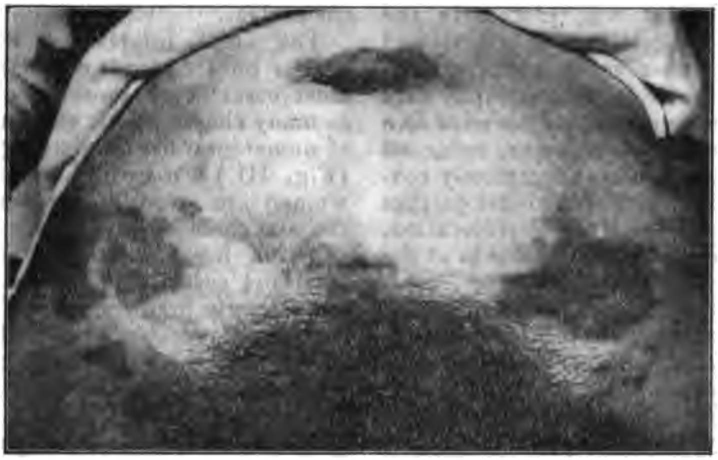
FIG. II.—Pins and needles removed from subcutaneous tissue of the extremities (Case V).

arm. The lower extremities also showed considerable edema. The case simulated a furunculosis. Careful examination revealed a peculiar circumscribed hardness in some of the lesions, not unlike that of some slender foreign body. An exploratory incision into one of them revealed the presence of a needle. The patient manifested intense surprise at the discovery, and avowed complete ignorance as to the manner in which it gained entrance, claiming that it must have been accidental. When several more lesions were opened and as many more imbedded needles and headless pins were removed, patient weakened and confessed that she had inserted them herself (Fig. II). During her first day's stay, forty-one headless pins and needless were removed, and before the patient left the institution the total reached seventy-four. The patient was readmitted upon many subsequent occasions, and a goodly number of needles and pins were extracted upon the occasion of each visit.

The motive which actuated this patient is of peculiar interest. She fancied that she had been guilty of certain misdemeanors, the exact nature of which she would not reveal, and from a sense of remorse emulating the example of ancient martyrs of the church, whose life history was made familiar by frequent teachings and readings, she inflicted self-torture upon herself by inserting at irregular intervals a larger number of needles and pins, whose heads were clipped with scissors, and in that manner paid pennance for all her fancied shortcomings.

CASE VI.

F. H., aged twenty years, was seen in consultation March 25, 1904, in reference to an extensive erythematous bullous-like eruption, situated for the most part at the umbilicus, and over the inguines, which the attending physician, by reason of some mucous plaques in the mouth and a gummatous infiltration of the septum nasi, which had broken down and perforated in April, 1903, had suspected to be syphilitic. Additional color was given this diagnosis by the presence of numerous large pigmented areas, in close proximity to the active lesions elsewhere on the body, which evidently had been the site of similar processes (Fig. III). The lesions were in various stages of development and repair, and from their capricious distribution, over readily accessible parts of the body, abdomen, genitals, extensor aspects of left arm and leg, their irregular and artificial appearance, the hysterical temperament of the patient, it was easy to immediately suspect that the eruption was of a factitious nature. Two semilunar bullæ, which almost completely encircled the umbilicus, presented a particularly suspicious artificial appearance. Patient, whose mother died nine years ago, stated that she was an only and very much indulged daughter of four children. Although afflicted at the time with leucorrhea, and showing unmistakable evi-



CASE. III.—Excoriations due to caustic applications (Case VI).

dences of acquired syphilis, she denied every form of indiscretion. She suffered with dysmenorrhea, and had been afflicted for years with headaches and nervousness. The first lesions appeared on the right side of the face and neck, in October, 1903, then on the left ankle and extensor surface of left arm, and ring finger of left hand in November. In December the groin and navel became affected, and the lesions have continued to recur once or twice weekly since that time, and have been distributed for the most part to the groin, navel and genitals. The lesions look and feel like burns, but distress the patient very little. She states that her nervous attacks are relieved by their appearance. Patient was placed in the Presbyterian Hospital on April 1, and kept under close observation until April 15, when the accompanying photographs were taken. The more recent lesions were in a state of almost complete repair, reddened and inflamed, but almost completely covered with epidermis, and the older patches showing merely a faint discoloration. After an entire stay of three weeks at the hospital, no new lesions having manifested themselves, under the rather careful surveillance, patient was informed regarding the true nature of her ailment. Patient would neither deny nor affirm the allegation, and maintained a stoic indifference in regard to all inquiries. Patient was thereupon dismissed, with an intimation that any recurrence in the future would be promptly followed by a report to those most interested, and at last reports, a matter of some weeks after her official discharge, patient has remained entirely free from her ailment.

A review of the foregoing cases shows that considerable importance is attached to the proper and prompt recognition of this class of affections, and that their successful management depends solely upon their proper recognition; that even in disease fraud and deception cannot resist correct skepticism, and that mere intimation suffices to place a material check to underhanded methods. A confession is not always obtainable, and is not always essential for a cure or diagnosis, as evidenced by Cases I, III and VI. Case II was cured and the diagnosis firmly established almost a month before a confession (the incriminating letter) was elicited. All of the cases subjected the immediate relatives to a great deal of unnecessary worry and vexation, not to say, in some instances, a considerable ill-borne expense and inconvenience. In Case IV the father was obliged to give up a well-paying and responsible position, to sell his home, and to incur the expense of a year's residence in a strange city without steady employment. In Cases II and III amputation of the offending arm was seriously contemplated. From a social, economic standpoint, the recognition of these conditions suffices to transform these delinquent individuals, who are a source of worry and care to others, into able-bodied individuals who are least able to care for themselves.

The chief interest of this affection hinges on its proper detection, which in most cases is not more difficult, and has as many characteristic ear-marks, as that of numerous other dermatologic affections. (Fig. III.) First of all, young hysterical women are strongly predisposed; all of the six cases belong to that class. The affection has a characteristic capricious location; accessible portions of the body are strongly predisposed. The left forearm is a favorable locality, likewise any of the extremities. Other characteristic and distinguishing features are extreme chronicity, distinct periods of exacerbations and remissions, futility of treatment, and the atypical character of both the lesions and the *ensemble* of the affection. Lastly, a suspicion in all rebellious dermatologic cases of an obscure nature should not be wanting, and a bold intimation to the patient will suffice to induce the patient to desist, and thereby confirm an otherwise dubious diagnosis. All suspicion should be well grounded before imparted, otherwise the physician, if the patient is unjustly suspected, will prejudice himself so as to remove the patient from his observation and care, and will also suffer in reputation as a skillful and successful practitioner.

REFERENCES.

1. Fox: British Journal of Dermatology, 1900, p 240.

2. Galloway: British Medical Journal, 1900, p. 84.

3. Hutchinson: British Medical Journal, 1896, p. 437.

4. Hyde: Journal Cutaneous and Genito-Urinary Diseases, 1897, p. 557.

5 James: British Journal of Dermatology, 1900, p. 465.

6. Pringle: British Journal of Dermatology, 1900, p. 21.

7. Radcliffe-Crocker: British Medical Journal, 1900, p. 243.

8. Shepherd: Journal Cutaneous and Genito-Urinary Diseases, 1897, p. 543.

9. Van Harlingen: International Medical Magazine, November, 1897.

Editorial.

MARK A. BROWN, M.D., Editor.

Cincinnati, Saturday, April 29, 1905.

OHIO STATE MEDICAL ASSOCIATION.

The sixtieth annual meeting of the Ohio State Medical Association will be held at Columbus, May 10, 11 and 12, under the presidency of Dr. S. S. Halderman, of Portsmouth, and from present indications promises to be one of the most important in the history of the society, both in attendance and from a scientific standpoint. The complete programme will be found in another column. It is but natural to expect an unusually large attendance when there has been selected for the meeting a city large enough to accommodate all without crowding, and situated as it is in practically the centre of the State, whereby physicians from all sections can attend without throwing upon any too great expenditure in time or money. Indeed, it has not infrequently been suggested that all annual meetings be held at Columbus, the expenses of same to be defrayed not as is now the case by contributions from the local profession, but by the Association, assisted by the trade exhibitors. As matters now stand with each new place of meeting, an entirely new Committee on Exhibits is appointed by the President, consisting usually—and, indeed, as is necessary—of local physicians. This committee has hardly time to become acquainted with its duties before being legislated out of service, as it were. A standing Committee on Exhibits would in a few years enormously increase the number of exhibitors and thereby greatly enhance the receipts of the Association from this source, the only means of revenue of the Association aside from the payments of its members. In this connection it must be remembered that the so-called exhibit is but one of the means by which a firm advertises its goods, and it is just as necessary to properly solicit this form of advertising as for an agent to induce the same firm to take space in the columns of the journal he is representing. While many firms are alive to the value of the exhibit at medical gatherings, just as many are not or have had no notification of the meeting, and it is to rectify these mistakes and omissions that a permanent committee of this kind is suggested.

The plan of dividing the literary work into two sections, medical and surgical, has met with such success and favor that it will be continued at this meeting, the medical section, together with the general meetings, the sessions of the house of delegates and the exhibitors, occupying the Y. M. C. A. Building, while the surgical section occupies the Board of Trade Auditorium. The up-to-date and timely character of the papers to be presented at both sections, together with the prominence of the essayists secured, speaks well for the energy and enthusiasm of the secretary, Dr. Frank Winders, of Columbus. The address in surgery will be delivered on Thursday, May 11, at 3 P.M., at the general meeting at the Y. M. C. A. Building, by Prof. John B. Roberts, of Philadelphia, who has selected as his subject one broad and in every sense suited to the needs of all physicians—"Surgical Diagnosis in General Practice."

The railroad rates will be the same as heretofore, and under the same mutual agreements, one and one-third fare for the round trip. It is earnestly requested that each member in attendance will enter his name upon the registration-book, indicating also the component local society of which he is a member. The neglect of local members to do this has in past meetings materially reduced the estimation of the actual number present. After registration each member shall receive a badge which will entitle him to admission to all the privileges of the meeting.

The house of delegates will hold its first meeting at 11 A.M., May 10. Probably the most important business coming before this body will be the selection of the means of publication of the proceedings of the society. Three plans are in consideration, all of which have their advocates: The establishment of an official monthly by the society, which plan has not met with the instantaneous and enthusiastic success predicted by its backers; the issue of a year-book as heretofore, and the selection of some already-established medical journal as an official organ. Action on this question was delayed last year in order that delegates might secure from their local societies instructions as to action. Local societies that have not already instructed their delegates on this point should do so at once, as in this way only can the house arrive at a conclusion as to the will of the members throughout the State.

In predicting for the sixtieth annual meeting of the Ohio State Society the most successful conclave of its entire history, THE LANCET-CLINIC wishes to congratulate the President, his committees and the profession of Columbus for the painstaking manner in which they have worked to contribute to the comfort and entertainment of their guests.

A NEW METHOD OF GENERATING FORMALDEHYDE FOR FUMIGATING PURPOSES.

Formaldehyde generators now on the market are, as a rule, complicated, expensive, frequently out of order, and thereby requiring almost constant repairing. Fumigation by this means consequently necessitates an amount of time which is often a grave objection to its routine employment. The heating of solidified formaldehyde or paraform in some simple apparatus by means of burning charcoal is also objectionable, in that volatilization may take place as paraform and not as formaldehyde, or the solidified compound may be destroyed—partially, at any rate—by combustion. By this latter method, too, much efficiency is lost on account of the absence of moisture. The use of burning fuel in a closed room is also a serious objection to the use of paraform. A simple substitute has lately been suggested by Walker[1] which is open to none of the above disqualifications, and which in routine work acts with admirable efficiency and rapidity. It consists simply of mixing solutions of formaldehyde with unslaked lime. This, as is known, will release formaldehyde gas, the only precaution being that enough lime must be used to combine with all the water present. Secondary reactions between the lime and the formaldehyde may be prevented by the use of alum, which converts the lime into insoluble calcium sulphate. In practice five pounds of commercial aluminum sulphate are dissolved in one gallon of hot water, and this solution is mixed with three gallons of 40 per cent. formaldehyde solution. Eight ounces of this mixture and one pound of lime are used for each one thousand cubic feet of space to be fumigated. The lime should be in small lumps and of a sample which slakes quickly in cold water. In that the method is cheap and free from all danger of fire, it is greatly to be recommended for wholesale fumigation. In addition, it is wholly practical in municipal work; in Brooklyn lately it gave 90 per cent. of successful fumigations, with the bacillus pyocyaneus used as the test organism. W. H. C.

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[1] Journal of the American Chemicel Society, March, 1905.

EDITORIAL NOTES.

OHIO STATE MEDICAL ASSOCIATION.—The sixtieth annual meeting will be held in Columbus, May 10, 11 and 12, 1905.

OFFICERS.

President—S. S. Halderman, M. D., Portsmouth.

First Vice-President—J. A. Dickson, M. D., Ashtabula.

Second Vice-President—J. S. Deamy, M. D., Bellefontaine.

Third Vice-President—W. E. Morris, M.D., Lisbon.

Fourth Vice-President—A. H. McCullough, M.D., Mansfield.

Secretary—Frank Winders, M. D., Columbus.

Treasurer—James A. Duncan, M. D., Toledo.

THE COUNCILOR DISTRICTS AND THE COUNCILORS.

First District—Counties: Hamilton, Clermont, Brown, Adams, Butler, Warren, Highland, Clinton, Fayette. Councilor: Brooks F. Beebe, Cincinnati, Chairman.

Second District—Counties: Preble, Montgomery, Greene, Darke, Miami, Clark, Mercer, Shelby, Champaign. Councilor: Horace Bonner, Dayton, Secretary.

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Fourth District—Counties: Paulding, Putnam, Defiance, Henry, Wood, Sandusky, Williams, Fulton, Lucas, Ottawa. Councilor: Julius H. Jacobson, Toledo.

Fifth District—Counties: Erie, Huron, Lorain, Medina, Cuyahoga, Lake, Geauga, Ashtabula, Trumbull. Councilor: Thomas Charles Martin, Cleveland.

Sixth District—Counties: Summit, Portage, Mahoning, Stark, Wayne, Holmes, Ashland, Richland. Councilor: T. Clarke Miller, Massillon.

Seventh District—Counties: Columbiana, Carroll, Jefferson, Harrison, Belmont, Monroe, Tuscarawas, Coshocton. Councilor: J. C. M. Floyd, Steubenville.

Eighth District—Counties: Guernsey, Noble, Washington, Muskingum, Morgan, Athens, Licking, Perry. Councilor: Edmund C. Brush, Zanesville.

Ninth District—Counties: Hocking, Vinton, Meigs, Pike, Jackson, Gallia, Sciote, Lawrence. Councilor: John E. Sylvester, Wellston.

Tenth District—Counties: Crawford, Morrow, Knox, Union, Delaware, Madison, Franklin, Pickaway, Fairfield, Ross. Councilor: T. W. Rankin, Columbus.

COMMITTEE OF ARRANGEMENTS.

F. F. Lawrence, President of Columbus Academy of Medicine, Chairman.

Committee on Accommodations—C. F. Turney, H. M. Platter, Frank Winders, Sherman Leech.

Committee on Entertainment—J. H. J. Upham, J. E. Brown, S. S. Wilcox, Frank Warner, Yeatman Wardlow.

Committee on Exhibits—F. W. Blake, Van der Veer Taylor, W. D. Deuschle, Wells Teachnor, S. J. Goodman.

Committee on Finance—H. W. Whittaker, C. S. Hamilton, G. M. Waters, P. D. Shriner, C. W. McGavran, E. J. Emerick.

Assistant Secretaries—H. M. Platter, Charles J. Shepard.

REGISTRATION.

Each member in attendance shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified he shall receive a badge, which shall be evidence of his right to all the privileges of this session. No member or delegate shall take part in any of the proceedings of this session until he has complied with these provisions.

Only bona fide members will be admitted to entertainments.

"No address or paper before the Association, except those of the President and orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor, except by unanimous consent, more than once on any subject."

"All papers read before the Association shall be its property. Each paper shall be deposited with the Secretary when read, and if this is not done it shall not be published."

WEDNESDAY MORNING, MAY 10.

Meeting of the House of Delegates,
Y. M. C. A. Building.

Call to Order at 11 o'clock.

Miscellaneous Business.

Nomination and Election of Nominating Committee.

Nomination and Election of Committee on Scientific Work.

Nomination and Election of Committee on Public Policy and Legislation.

Nomination and Election of Committee on Publication.

WEDNESDAY AFTERNOON.

General Meeting.

Call to Order at 1:30 P.M.

Report of Committee of Arrangements.

Address of Welcome. Hon. R. A. Jeffrey, Mayor of Columbus.

On Behalf of the Profession of Columbus. Starling Loving, Columbus.

Response by the President.

Address of the President, S. S. Halderman, Portsmouth.

Pernicious Anemia, With Case Reports. J. H. J. Upham, Columbus, Columbus Academy of Medicine.

Atypical forms of Pneumonia. Robert Ramroth, Marion, Marion County Medical Society.

Gastric Features of One Hundred and Fifty Cases of Pulmonary Tuberculosis. L. A. Levison, Toledo, Toledo and Lucas County Academy of Medicine.

Report of a Case of Rabies, with Reference to the Statutes Regarding this Disease. Albert S. Barnes, Groveport, Columbus Academy of Medicine.

The General Practitioner. A. B. Swisher, Marysville, Union County Medical Society.

Contract Practice. James F. Fitssimmons, Bucyrus, Crawford County Medical Society.

Senile Atony of the Bladder. C. M. Harpster, Toledo, Toledo and Lucas County Academy of Medicine.

Disease of Lachrymal Sac; Abscess and Treatment. Joseph Sager, Celina, Mercer County Medical Society.

The Treatment of Benign Strictures of the Rectum. L. R. Fast, Paulding, Paulding County Medical Society.

Exophthalmic Goitre. Joseph Ransohoff, Cincinnati, Academy of Medicine of Cincinnati.

Infection of Gall-Bladder in Typhoid Fever. S. P. Kramer, Cincinnati, Academy of Medicine of Cincinnati.

Quarantine of Diphtheria and Scarlet Fever Patients in Rural Districts. J. G. Wilson, Colerain, Belmont County Medical Society.

Quarantine. G. B. Spencer, Weston, Wood County Medical Society.

WEDNESDAY EVENING.

Meeting of House of Delegates, Y. M. C. A. Building.

Call to Order at 8 o'clock.

Reports of Officers and Committees.

Reports of the Councilors.

Miscellaneous Business.

THURSDAY MORNING, MAY 11.

Surgical Section, Auditorium of the Board of Trade.

Call to Order at 9 A.M.

Operation for the Cure of Large Inguinal Hernias. J. U. Barnhill, Columbus, Columbus Academy of Medicine.

Mammary Gland—When and How Shall it be Removed? Ben R. McClellan, Xenia, Greene County Medical Society.

Breast Cancer—An Analysis of Ninety-two Cases Operated. George W. Crile, Cleveland, Academy of Medicine of Cleveland.

Surgical Pathology of One Hundred Mammary Tumors. Williard J. Stone, Toledo, Toledo and Lucas County Academy of Medicine.

A New Truss for Umbilical Hernia. Methods and means of treatment in vogue, with the difficulties encountered in their use on infants and children, some being inefficient, some harmful and all more or less inconvenient. Presentation of a truss designed to be both efficient and convenient. S. W. Kelley, Cleveland, Academy of Medicine of Cleveland.

The Treatment of Osteo-Myelitis of Femur by Iodoform Plugging. H J. Whitacre, Cincinnati, Academy of Medicine of Cincinnati.

Anesthetics. Chas. P. King, Newark, Licking County Medical Society.

Ethyl Chloride as a General Anesthetic. A. H. Dunham, Dayton, Montgomery County Medical Society.

THURSDAY MORNING, MAY 11.

Medical Section, Y. M. C. A. Auditorium.

Call to Order at 9 A.M.

The Social Status of Tuberculous People. W. W. Pennell, Mt. Vernon, Knox County Medical Society.

Congenital Word Blindness—Its difference from the acquired form, the so called Alexia, the rarity of the condition, the importance of its recognition in regard to the education of the child. W. E. Bruner, Cleveland, Academy of Medicine of Cleveland.

Recognition of Glaucoma. S. C. Ayres, Cincinnati, Academy of Medicine of Cincinnati.

Some Observations on the Blood and Urine Under High Frequency Currents. A. L. Steinfeld and L. M. Dolloway, Toledo, Toledo and Lucas County Academy of Medicine.

The Criminal Insane—Crime as the result of congenital and acquired mental defects. Relation between genius and criminal insanity. Necessity for isolation and observations of suspected cases. The duties of the medical witness as seen by the lawyer and by the physician. H. S. Upson, Cleveland, Academy of Medicine of Cleveland.

Treatment for Puerperal Convulsions. E. Gustav Zinke, Cincinnati, Academy of Medicine of Cincinnati.

Typhoid Fever, Etiology and Pathological Anatomy. H. Blankenhorn, Orrville, Wayne County Medical Society.

Typhoid Fever with Special Reference to Treatment. J. B. Woodworth, Delaware, Delaware County Medical Society.

Treatment of Typhoid Fever. N.T. McTeague, New Lexington, Perry County Medical Society.

Some Observations on the Treatment of Typhoid Fever. E. D. Moore, Moorefield, Harrison County Medical Society.

Pneumonia. D. L. McAulliffe, Sidney, Shelby County Medical Society.

THURSDAY AFTERNOON.

Meeting of the House of Delegates, Y. M. C. A. Auditorium.

Call to Order at 1 P.M.

Report of Nominating Committee and Election of Officers.

Selection of Place of Meeting.

Miscellaneous Business.

Adjournment.

General Meeting, Y. M. C. A. Auditorium.

Call to Order at 3 P.M.

Address in Surgery: Surgical Diagnosis in General Practice. John B. Roberts, Philadelphia, Pa.

Councilor Work in Ohio. Brooks F. Beebe, Cincinnati, Chairman of the Council.

Co-Operative Sanitation—A sketch of the history of sanitary affairs in Cleveland for the last three years. H. E. Henderson, Cleveland, Academy of Medicine of Cleveland.

Gastro Enterostomy—A Conservative Measure—The Treatment of Various Diseased Conditions of the Stomach and Intestines. Chas. A.L. Reed, Cincinnati, Academy of Medicine of Cincinnati.

Multiple Erosions of the Stomach. Joseph Eichberg, Cincinnati, Academy of Medicine of Cincinnati.

The Importance of a Correct Interpretation of the Source of Pathological Elements in the Urine:

1. The most important and significant elements are blood and pus.

2. The causes producing them are many and varied.

3. No judicious treatment can be followed without first knowing the source and cause of the pathological elements.

4. Most methods now in vogue for ascertaining the source and cause are entirely inadequate and utterly unreliable.

5. The newer methods of cystoscopy and ureteral catheterization are the best aids in the diagnosis of the source and cause of these elements.

6. A résumé of two hundred and twenty-five cases. W. E. Lower. Cleveland, Academy of Medicine of Cleveland.

The Code—The Professor—The Country Doctor. Webb J. Kelly, Piqua, Miami County Medical Society.

Outside the Beaten Paths. J. D. Axline, Shawnee, Perry County Medical Society.

THURSDAY EVENING.

Annual Banquet, Southern Hotel.

FRIDAY MORNING, MAY 12.

Medical Section, Y. M. C. A. Auditorium.

Call to Order at 9. A M.

Association of Hysteria with Organic Brain Lesions. H. H. Hoppe, Cincinnati, Academy of Medicine of Cincinnati.

Some Features of the Diagnosis and Treatment of Associated Gastritis and Nephritis. Frequency with which one lesion is associated with or caused by another. Gastritis and nephritis frequently associated. Disease in the one organ is apparently sometimes the cause of disease in the other. Necessity of recognizing both conditions clearly, since treatment of one lesion alone may be a benefit or a detriment to the other. M. J. Lighty, Cleveland, Academy of Medicine of Cleveland.

Out-Door Treatment of Tuberculosis of the the Lungs. Benj. F. Lyle, Cincinnati, Academy of Medicine of Cincinnati.

The Treatment of Cerebro Spinal Meningitis. A. E. H. Mearker, Napoleon, Henry County Medical Society.

A Method of Bimanual Rotation in Occipito-Posterior Positions. W. D. Porter, Cincinnati, Academy of Medicine of Cincinnati.

The Diagnosis of Intra-Cranial Lesions. J. A. Weitz, Montpelier, Williams County Medical Society.

Three Cases of Mushroom Poisoning. S. G. Sewell, Greenville, Darke County Medical Society.

Insomnia. J F. Purviance, Steubenville, Jefferson County Medical Society.

Therapeutics. E. A. Wolf, Dennison. Tuscarawas County Medical Society.

FRIDAY MORNING, MAY 12.

Surgical Section, Auditorium of Board of Trade.

Call to order at 9 A M.

Should Hysteropexia Be Discarded in Child-Bearing Women? William J. Gillette, Toledo, Toledo and Lucas County Academy of Medicine.

Essential Hemorrhage of the Kidney. The difficulties of diagnosis, the uncertainty of the pathological changes and the surgical treatment. F. E. Bunts, Cleveland, Academy of Medicine of Cleveland.

Modern Treatment of Fractures. Robert Carothers, Cincinnati, Academy of Medicine of Cincinnati.

Some Abdominal and Pelvic Emergencies, Medical and Surgical. G. W. Moorehouse, Sparta, Morrow County Medical Society.

The Surgical Treatment of Gastric Ulcers. W. D. Haines, Cincinnati, Academy of Medicine of Cincinnati.

Ectopic Gestation, Diagnosis and Treatment. W. A. Melick, Zanesville, Muskingum County Medical Society.

Treatment of Pruritus Ani, with Report of Cases. E. A. Hamilton, Columbus, Columbus Academy of Medicine.

Hemorrhoids. C. C. Williams, Niles, Trumbull County Medical Society.

The Removal of a Very Large Foreign Body from the Orbit and a Clock Leg from the Right Bronchus. J. M. Leslie, Chillicothe, Ross County Medical Society.

Dr. Henry W. Bettmann, of this city, at the recent meeting of the American Gastro-Enterological Association at New York City, was elected President for the ensuing year.

Dr. James M. French, for many years one of Cincinnati's physicians, but for two years past, on account of his health, a resident of San Diego, Cal., was at the last meeting of the San Diego County Medical Society elected its President. He is also on the staff of the Agnew Sanitarium of San Diego.

The next annual meeting of the Ohio Valley Medical Association will be held at Henderson, Ky., November 8 and 9, 1905. Those who wish to contribute papers will address Arch Dixon, M.D., Chairman Committee on Arrangements.

Academy of Medicine. — Monday evening, May 1, Drs. Wm. H. Crane and Alfred Friedlander will present a paper on "Ehrlich's Theory of Immunity," with demonstration.

Correspondence.

THE AMERICAN ANTI-TUBERCULOSIS LEAGUE.

HAMILTON, O., April 22, 1905.

EDITOR LANCET-CLINIC:

The meeting of the American Anti-Tuberculosis League at Atlanta, on April 17 to 19 inclusive, was more of a success than even its promoters expected. Preparations were made by the committee in charge to give the visitors a good time. Two thousand dollars were raised, five hundred of which was contributed by the city through its council.

On registering, you were given announcements and a badge. The first of the former which was taken advantage of was the invitation to call at a famous liquor house and accept a bottle of rare old whisky. This was in accord with the views of many, viz., that whisky is good for consumption; and by a little sophistry it is easy to convince yourself that it is good for the consumptive's medical adviser. Assembling at the Capitol, in the House of Representatives, we were welcomed—yes, five times—by the governor, Editor Howell, the president of the Chamber of Commerce, and two of the local profession. With this welcome, and conscious of something in our possession which could, if necessary, drive away care, we were happy.

The programme contained about fifty papers, of which about two-thirds were read. The country was represented from all parts, the majority, of course, coming from the South and West. Cincinnati had no representative, though Dr. Mary Hawes, formerly an interne in the Cincinnati Hospital, read a paper, and a number of Kentucky doctors were conspicuous on and off the programme. Several times the diagnostic skill and acumen and the opportunities of our Dr. B. F. Lyle were mentioned in private conversation. The papers dealt chiefly with methods of prevention in school, home and railway cars. Treatment was hardly touched.

The chief aim of the league is to disseminate knowledge among the laity concerning prevention. This it expects to do largely through the press. Conclusions in easily understood language will be given to the newspapers, so that runners may read. A resolution was introduced looking to the disinfection of sleeping cars, at stated times, by order of the State boards of health. When we get strong and fit we may become audacious enough to ask that the unused upper berths be left up. Think of dressing in a sleeping-car berth without the danger of overturning the car, as Mr. Dooley says.

A statement was made by one of the best laboratory-trained general practitioners of the South that he had never known a negro afflicted with pulmonary tuberculosis to recover. The speaker regarded the negro as susceptible to the disease as the guinea-pig. If anything shows the importance of preventive measures in the large cities, where the negro is so vulnerable, this does. The negro came in for a great deal of consideration. The Southern people are fully aware of the white man's burden, and the negro's economic value when sound morally and physically,

The fact that there were about three hundred delegates present is proof that there was interest in the object of the league. It is a pity, though, that a body whose main aim is the prevention of the world's greatest scourge should, as it appears, excite the hostility, or at least the apathy, of some who see nothing good outside of medical organization. The prime instigator of this league, Dr. George Brown, does not treat tuberculosis at all except what comes to him in the practice of his specialty, laryngology. The motive seems to be simply disinterested benevolence. Dr. Brown is a live wire through which flows a genial current. His versatility equals his capacity for work. He combines the happy faculty of dealing with little vexatious details as well as big things. His able lieutenants, Drs. Van Dyke and Hubbard, have lightened his labors and increased the results.

The constitution of this league is rather oligarchical, as seems necessary in the infancy of such a body. The leaders, no doubt, seeing that they were best qualified to direct its development, have wisely provided for a nominating committee which elects the officers and selects the place of next meeting. Later, when the league has stood the test of time and proven itself to have the earmarks of longevity, the oligarchy may give way to a democracy. The election for the next year resulted as follows: President, Dr. R. E. Conniff, of Sioux City, Ia.; secretary, Dr. Walter N. Villas, of El Paso, Tex. A large number of vice-presidents will be chosen over various parts of the country. El Paso will be the next place of meeting.

The social side of this meeting was delightful. A reception by Dr. Brown at the Piedmont Hotel was the feature of Monday evening. Here the élite of the city came to bid us welcome. On Tuesday afternoon five hundred miniature sombrero hats were distributed to the members, the favors of the city of El Paso. Decorated with these we boarded street cars and were taken to a country club, where the novelty and delight of a Georgia barbecue were experienced. Twenty-four carcasses of pigs and sheep were stretched across a long trench in which were wood embers. Brunswick sauce, the ingredients of which no Northern man need try to remember, beer, rolls and roast meats make a delicious repast. Here, again, were many of Atlanta's best people to initiate the stranger. On Tuesday it was my privilege to be entertained by Dr. Pinckeny, one of Atlanta's neurologists, at a stag dinner to about a dozen doctors. The final social event was a reception to the visitors and delegates by Mr. and Mrs. Horner, at the Piedmont Driving Club, on Wednesday evening.

Next year the Texans will probably greet us in true Western style. A bull fight is promised across the river. When telegrams from various officials and organizations of El Paso inviting the league to meet there pour in at the rate of one an hour, as they did on Monday and Tuesday, one need have no fears of being unwelcome.

To-day's issue of this journal carries the announcement of another congress for the study of tuberculosis at Washington. The more the better. MARK MILLIKIN.

Miscellaneous.

The Ethics of Gonorrhea in the Female

A paper read before the Obstetrical Society of Cincinnati by Dr. E. S. McKee, of Cincinnati, and published in THE LANCET-CLINIC of January 21, 1905, has been abstracted already in just a dozen medical journals in the United States and has been reviewed to the extent of a column in the *London Lancet* of the issue of February 18, 1905. The following is the *Lancet's* review:

"A QUESTION OF PROFESSIONAL SECRECY.

"A paper read, recently, before the Obstetrical Society of Cincinnati, U. S. A., by Dr. E. S. McKee, had for its title 'The Ethics of Gonorrhea in the Female,' and for its subject the difficulties which may beset the medical man in preserving the secrets of his patient consistently with his duty to society where venereal disease in a woman is concerned. In a case of this kind it is hardly necessary to point out that the knowledge acquired by the medical practitioner in the exercise of his profession is not confined to the fact that his patient suffers from a disease. It may place his reputation in his keeping, so that it is in his power to destroy it, or circumstances may come under his observation during his treatment of her which may render him the one person who can effectively maintain her honor. In some occasions, again, he may acquire the secret of the dishonor of a man or a woman other than his patient. In short, the complications which may arise are numerous, and each case must be dealt with according to its merits, always keeping in mind certain broad principles of professional conduct. In the paper referred to a curious instance is given of a case in which the duty of the medical man was not altogether clear, in which he had a legal decision to guide him with which he did not agree.

"A young man came to Dr. McKee and confessed that he had infected his wife with gonorrhea. Dr. McKee successfully treated her for it. Meanwhile the husband confessed to his wife also what he had done, and apparently allowed her to infer that her medical attendant knew to whom her disease was due. Later on divorce proceedings were initiated by the wife, and Dr. McKee received the U. S. equivalent to a subpena, a somewhat drastic form of a summons enforced by the presence of a constable, to come and testify what the husband had told him. This he declined to do. The American law accords privilege to knowledge obtained from the patient in the course of professional treatment, but the judge decided that this did not apply to the evidence sought for in instance before him on the ground that the wife was the patient and that the confidence, the revelation of which was sought, was not hers, but her husband's. In England no privilege attaches so as to protect the medical man in any case, but the principle upon which he resists the effort to extort from him in the witness-box the secrets of his patients is, no doubt, that upon which the American law was originally founded.

"If we regard the question decided by the judge as a matter of principle, we shall see that the point is one not quite easy to determine off hand. The husband, no doubt, spoke in confidence to Dr. McKee, and was entitled to have his communication jealously guarded. On the other hand, the wife was the patient, and directly she alleged that she had contracted venereal disease and had been corroborated as to this by her medical attendant her honor was impugned unless she could show that her husband and no one else had infected her. Dr. McKee questions the soundness of the judicial decision, and observes, probably correctly, that if he had attended the husband for gonorrhea as well as the wife, he could not have been ordered to give evidence on the subject. It may be considered, however, that on a matter of principle the medical man is not bound to keep a secret which the person confiding it to him has himself given away, as he is in cases where his confidant has done his best to preserve it. The husband in Dr. McKee's case had told his secret to his wife, and he had apparently told her or allowed her to infer that he had told her medical adviser. In such circumstances he certainly had no right to complain if the medical man obeyed the judge's order without demur."

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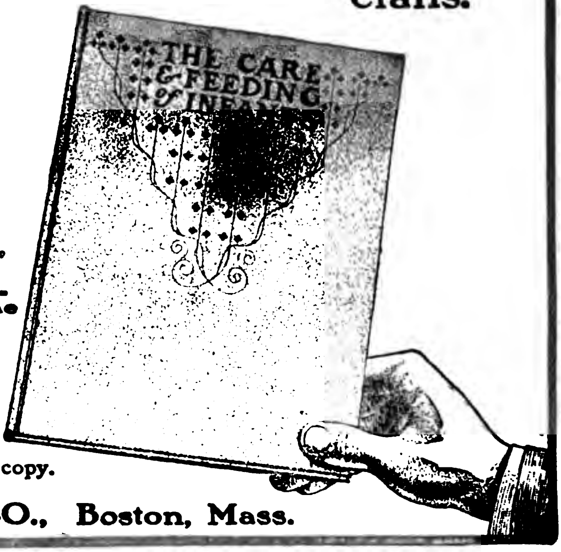
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THE AFTER-TREATMENT IN ABDOMINAL OPERATION.*

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The small things in surgery are so seldom brought up for discussion in our medical societies that I have ventured to present the subject of the management of the post-operative period to this society of abdominal surgeons, feeling that every man doing this sort of work is vitally interested in this period. My paper does not present anything original or new, but is written for the purpose of emphasizing the great usefulness of certain methods that have been adopted.

The introduction of asepsis into surgery has, in reality, transformed the post-operative period into one of comparative calm and comfort when contrasted with the battle for life which followed abdominal operations in the early days of surgery. When the patient has been properly prepared for an aseptic operation, and when the procedure has been carried out with caution in every detail, it matters little whether we make an incision three inches long or ten inches long, whether we remove a tumor of one pound or forty pounds, we expect the patient to recover, and this without much variation in the nature of his convalescence.

Inasmuch as the preparation of the patient determines to such a marked degree the post-operative course, I shall briefly outline the preparatory treatment. I prefer in every case to begin the post-operative management of a case by the prevention of every complication that can be forestalled. I prefer to move the bowels of a patient thirty-six hours before operation. The patient does not enter the hospital until the day preceding operation. On the night preceding operation a mild laxative is given, and on the morning of operation an efficient simple enema. This method saves the patient the depleting action of a cathartic and a wakeful night immediately preceding the operation. The diet should be confined to liquids on the day preceding operation, nothing, of course, being given on the morning of operation, except, perhaps, a cup of bouillon or a glass of water early in the morning. The patient should be encouraged to drink an abundance of water, at least two quarts on the day preceding operation in order to fill the tissues with fluid. At four o'clock on the day preceding operation the abdomen and pubes are shaved, washed with soap and water, then with 70 per cent. alcohol, then a soap poultice is applied over night. This is made as follows: Six layers of gauze saturated in green soap are applied over the abdomen, extending into groin on each side. A sheet of gutta-percha tissue or oil silk covers this completely, and the entire dressing is held in place by a roller bandage or a binder so arranged that it fits snugly and keeps the poultice in close contact with pubes and groins. The double spica bandage is preferred. Attendants do not fully appreciate the necessity for the close application of the dressing, and personal supervision should therefore be given. Early on the morning of operation this poultice is removed, the abdomen is gently scrubbed with soap and water, a gauze pad being used for the purpose, and the soap is washed away with clear water. The entire skin area is then washed with 70 per cent. alcohol and covered with a 1 to 2,000 bichloride dressing until the time of operation. This dressing should likewise fit very snugly. I always have my patients re scrubbed with soap and water, alcohol and bichloride after they are on the table.

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* Read before the Obstetrical Society of Cincinnati, January 12, 1905.

It will, of course, not be possible to speak of the aseptic detail necessary during operation. The essential principles, however, are sterilization of dressings by super-heated steam; the sterilization of instruments by boiling; the use of rubber gloves for every individual concerned with the wound, including doctors and nurses; the use of sterile gowns and caps and the wearing of a face mask.

Permit me to insert at this point a few remarks upon the use of a face mask. I have for almost three years used a face mask covering the nose and mouth during all clean operations, no matter what their extent. Experimental research seems to demonstrate that the projection of germ-laden particles of saliva into a wound during talking is a very positive source of danger. Certain investigators have exposed culture plates alongside the wound during operation, and have obtained with regularity cultures of pathogenic germs. If these germs are projected upon a cu- ture plate they are most certainly projec into the wound. Most excellent resu have certainly been obtained and are obtained by men who do not use in precaution against infection. We all know however, that the abdominal cavity ca take care of a certain number of germs—indeed, that it has remarkable powers o resistance—yet at the same time we d not know the exact limitation of this to erance in any case; furthermore, it i equally apparent that there can be no fix line of limitation, since the vital resistance of the individual patient must vary grea Recognizing, therefore, the fact th pathogenic germs are projected from th nose and mouth, particularly in the wint seasons, is it not our bounden duty to pro- tect our patients against this avenue o infection? We certainly would feel gu were we to carry out the aseptic deta with rigidity in an operation, yet u gauze sponges which were clean yet n sterilized. We would call this a culpabl break in asepsis. To use a mouth and nose during operation which are actuall septic seems an offense quite as grave. cannot state that my results are better th those of other men; indeed, I believe th in view of the many possible avenues o infection during an operation it would b impossible to demonstrate such resul with certainty. I do feel convinced, how ever, that this method places an additional safeguard about my patients, and that i application is correct.

Shock is perhaps one of the most i portant factors to be considered in after-treatment of patients who have und gone an abdominal section. I believe th here, too, is a condition which is be treated by prevention. Clean cu minimum amount of tearing of tissues gentle traction, infrequently shifted, important conditions in the abdom incision. The principal care must be e ercised within the abdomen. Tra upon the mesentery and manipulatio this structure are particularly cond to shock. The intestinal tube has no sory nerves, and all intestinal pain p ably comes from traction or inflamma in the mesentery or its attachments. entire length of the intestinal tube be passed through the fingers in sear for gunshot wounds without produ serious shock, providing we do not upon the mesentery; yet I have seen the most serious shock follow traction upon a short sigmoid mesentery in an effort to bring this portion of the gut into the wound for a colostomy. Speed and complete hemostasis are additional factors of importance in the intra-abdominal manipulation. It is true that many conditions will present themselves in the course of an operative experience which will demand traction, manipulation and laceration, yet every effort should be directed even in such operations to minimize the injury inflicted.

As an additional factor in the care of the patient during operation, I believe that the protection of the patient against chilling has its definite place of importance. A small blanket should be placed over the chest of the patient, another over the extremities, and the abdomen should not be exposed to the air except for a limited area around the incision.

When the dressings have been applied the patient should be thoroughly encased in many thicknesses of blankets, which have been removed from the sterilizer or other heating appliance and are almost uncomfortably hot. This precaution saves chilling the patient as he is transferred through the halls. The bed should be properly prepared in advance and should have been warmed by at least six hot-water bottles.

Post-operative vomiting is a most trying condition to the patient. I have, in a large degree, overcome this disagreeable complication by the application of two procedures—the use of Iglauer's nitrous oxide-ether series apparatus and by the irrigation of every patient's stomach before he leaves the operating-table and immediately after the withdrawal of the anesthetic. Post-operative vomiting is probably caused by the presence of the anesthetic in the stomach. The drug gains entrance into the stomach in two ways: First, it is swallowed by the patient in mucus from the mouth; and secondly, it is secreted directly by the stomach mucosa. That ether or chloroform are secreted by the mucosa of the stomach has been demonstrated by tying off the esophagus of an animal before the anesthetic has been started. Irrigation of the stomach removes this irritating material. The procedure is very easy of application, there is apparently no danger of pushing the tube into the trachea, and the entire procedure is carried out while the patient is unconscious. The cautious operator will insert the empty stomach-tube to a proper depth, wait a few seconds to see that the patient is still breathing naturally and easily, then proceed with the irrigation. Two quarts of salt solution will wash away varying amounts of mucus and bile-stained fluid. Sixty to 80 per cent. of patients will not vomit after operation; another considerable percentage of cases will vomit once or twice, and only a very small percentage will be seriously troubled by the vomiting. There are two very good reasons for preventing post-operative vomiting if this can be done: First, patients describe the pain caused by vomiting after laparotomy as their most intense suffering; and second, every act of vomiting causes excessive contraction of the abdominal muscles and dangerous tension on the stitches. I, therefore, apply this method as a routine procedure.

When a patient has returned to bed in a good condition our first thought should be of the kidney function. Intra-abdominal manipulation may, and frequently does, cause reflex disturbance in the circulation of the kidney and resulting suppression of urine. This reflex disturbance is best treated by the use of salt solution per rectum. One pint of salt solution is accordingly given per rectum every four or five hours. In a number of cases I have used a method suggested by Murphy, and allowed salt solution to seep into the rectum drop by drop. I apply this method by tying a knot in the tube of a fountain syringe and pulling it just tight enough to allow the regular escape of two drops per second. A soft rubber catheter is now introduced as high as possible into the rectum and left in place. The patient will receive and retain without discomfort two quarts of salt solution during the first five hours. Dr. Charles Langdale, house surgeon at Christ Hospital, has modified this method somewhat by leaving the tube in place, then allowing two or three ounces of fluid to flow in every thirty minutes.

When a patient has lost much blood there is no treatment that can be compared with the intra-venous or hypodermic injection of salt solution. When the needs are urgent, or even moderate, I never rely upon hypodermoclysis. The circulation, therefore the absorptive powers, are at a low ebb under such conditions, and action must be prompt. With the intra-venous method I have had salt solution flowing into the vessels in full amount within two minutes after the danger signal arose. This prompt application of the remedy could not be made hypodermatically, and I am certain that I have saved many lives by speed in application. From one to two quarts are first employed, then this dose is repeated once or twice if it seems necessary. The use of salt solution per rectum will usually render a second intravenous dose unnecessary.

I have made still another use of salt solution in cases where vomiting is persistent and salt solution is not retained by the rectum. One pint of solution introduced hypodermatically every five hours will efficiently control thirst and contribute greatly to the comfort of the patient.

Shock has been looked upon both by the profession and the laity as the all-important condition after operation. Shock in an alarming form is now a rarity in my experience. More than one year ago I purchased a Crile suit for the treatment of this condition and have used it but once in a case of traumatic amputation of the leg in a street-car accident.

I have attributed the infrequency of this complication during the past few years to the strict application of the principles already enumerated. I am, furthermore, of the opinion that many of the symptoms that are often called shock are the symptoms of mild infection that does not result in suppuration, rather than symptoms of vaso-motor lesion. When patients require stimulation after operation I employ adrenalin, digitaline and nitroglycerine hypodermically. Since Crile has demonstrated that strychnine has a physiologic action upon the vaso-motor centres entirely analogous to that caused by shock, I have discontinued its use. When shock presents itself in a severe form I believe the Crile suit to be rational method of treatment when used in conjunction with absolute quiet, warmth, and other general principles of treatment that are well known.

Pain after operation urgently demands attention. I am usually able to control this pain by means of chloral and codeine per rectum. Twenty grains of chloral and two grains of codeine phosphate diluted in three ounces of water are administered as high as possible in the rectum. This dose may be repeated every hour until three doses have been given. If prompt relief is not obtained I usually supplement this dose by one grain of codeine phosphate hypodermically and repeat in one hour if necessary.

Pain in the back is a very troublesome symptom. This is said to be less severe when the operating-table is provided with a hot-water cushion. A skilled nurse can do much to relieve this pain by the application of pillows under the knees and under the back and by rubbing or supporting the back with the hand. After the first twenty-four hours the pain in the back and the pain of operation usually disappears.

The management of the stomach and the bowels forms an important part of the after-treatment. Nothing is given per mouth for twelve or eighteen hours after operation, when hot water in drachm doses is allowed. If this is not rejected the amount may be increased, and at the end of twenty-four to thirty-six hours the patient will be taking fairly liberal amounts of hot, then cold, water. When vomiting has been a feature in the case, or when the patient develops an irritable stomach after operation, I have frequently given the patient drink as has already been described by hypodermic injection. Some patients will vomit everything that is given for the first twenty four or forty-eight hours. When this tendency develops everything is withdrawn for at least six hours, or, in some cases, a full glass of cold water is given. The patient either retains the full glass of water and the stomach is normal thereafter or the entire amount is vomited, thus washing the stomach, and the water will be tolerated after two hours' rest. I do not hesitate in the least to wash a patient's stomach a second time in case vomiting is severe and persistent. This is particularly called for after operations for intestinal obstruction, and in those cases where peritonitis exists. In some cases stomach irrigation applied in this way has been absolutely life-saving. Thirty-six hours after operation, beef broth, albumen water and weak tea are given, then soups and milk are added, and the patient receives such articles as milk toast, gruels, soft boiled eggs, etc., after the third day. A full diet should not be established until the third week of convalescence.

There is much difference of opinion as to the proper time to move the bowels. I rarely disturb the bowels until the end of the third or fourth day, and if they will move at this time by means of an enema this is deemed sufficient. As a carthartic dose I usually employ calomel one-fifth grain every half hour for eight doses, then follow this by citrate of magnesia one hour after the last dose of calomel. If the bowels do not move in four hours a soapsuds enema is given. Should irritability of the stomach interfere with the administration of a cathartic dose by mouth, it will be wise to introduce a stomach-tube, wash the stomach thoroughly and then pour one ounce of epsom salts in saturated solution into the empty stomach. This dose will usually pass immediately into the intestines and will have a cathartic action. Cathartic enemata are valuable adjuncts. I usually employ an enema consisting of one ounce each of castor oil, salts and glycerine in one pint of water, which is delivered at least twelve inches above the sphincter by means of a rectal tube. The cathartic dose is allowed to remain for one half hour and then a large two-quart soapsuds enema is given and the bowels will usually move. Firm pressure on the anus by means of a folded towel will aid materially in the retention of an enema when the bowel is found to be irritable.

In uncomplicated cases the position of the patient in bed is usually horizontal. The patient is kept on the back for one week, then is allowed to turn from side to side, and on the eighteenth day is allowed to sit up in bed. In peritonitis the Fowler position with head of bed elevated, or, preferably, the sitting posture, is employed.

The patient's wound is not disturbed for one week unless drainage has been used or symptoms develop which lead to a suspicion of trouble. Wound trouble is so unusual that we seldom give this matter concern. I employ twenty four hour drainage with great frequency even in clean cases. Provisional sutures are introduced at the time of operation, then tied after the drainage has been removed, and wound healing seems to be as satisfactory as after primary closure. The subcuticular stitch of silkworm-gut is removed in seven to ten days. The deeper layers of the abdominal wall are united by interrupted No. 3 twenty-day cat-gut, and the only suture to be removed is the subcuticular stitch. Difficulty will occasionally be encountered in its removal. A kink in the strand will make it impossible to withdraw the stitch. When the button is detached from one end and an attempt is made to withdraw the stitch a puckering in some part of the line of incision will indicate a kink. Should this difficulty arise it is wise to exert moderate traction for one to two minutes, then relax. If it does not loosen up in one or two such pulls the effort should be discontinued for twenty-four hours, when a repetition may prove successful. Strong traction on such a stitch will often break it and leave a considerable section of the suture completely buried in the skin. For quite a period of time I left such broken stitches in the tissues, thinking that they would cause no further trouble. Three experiences with sinuses and subsequent discharge of the suture after the return of a patient to her home have led me to look upon every broken stitch as dangerous. I believe that a very small cocaine incision should be made at the point of puckering in the wound and the silkworm gut stitch picked up at this point with a blunt tenaculum.

I keep my patients in bed for three weeks, almost without exception, after an abdominal operation. In exploratory operations for cancer in the upper one-half of the abdomen I practice the suggestion of Mayo—close the abdominal wall with silver-wire mattress sutures and get the patient up and around in three to five days.

The bowels of a patient should be moved every day of the convalescence until at least three weeks have passed. In this way post-operative intestinal obstruction, a very positive danger, will be avoided.

The patient is usually fitted with an abdominal binder before assuming the erect posture, and this binder is worn during the day-time for about three months. I do not employ a binder in the muscle splitting operations—those for appendicitis, kidney conditions, gastrostomy and cholecystotomy.

A prolonged period of convalescence is

regularly recommended to a patient who has undergone a capital operation. I believe that it is folly to permit a patient to gratify his insatiate desire to get back to his routine duties of life within three or four weeks' time. A surgical operation is a very serious shock to the system in general, the remote effects of which we do not by any means yet understand. When a patient must undergo such a serious procedure, one perhaps involving his entire future usefulness and happiness, it seems to me that he should take every possible precaution for safe convalescence. By this I do not mean that a patient should remain in bed or absolutely idle for a prolonged period, but that he should remain in a condition of luxurious employment only. He should be encouraged to work moderately and should indulge in light exercise, yet he should never omit abundant periods of rest. Such patients should arise late and get to bed early, and should by all means spend two hours in a recumbent position in the middle of the day. If this course is pursued for three or four weeks after leaving the hospital the recovery will be much more secure and free from all of those symptoms of weakness and impaired efficiency which are so often experienced. There is a tendency at the present time to make light of the surgical procedure. It is so easy for almost anybody to get a brilliant wound result that there is a tendency to think of the surgical procedure as an insignificant affair, involving only the brief period of hospital stay or surface healing of the wound.

The paper which I have had the honor to present to you is in no sense intended as an exposition of this subject, but is purely an original report of personal methods. The chief points that I wish to make are:

1. The importance of the face mask as an additional safeguard.
2. The prevention of post-operative vomiting by the stomach irrigation.
3. The avoidance of shock by minimizing the injury.
4. The high value of salt solution per rectum in re-establishing kidney function and in contributing to the comfort of the patient.
5. A prolonged period of convalescence will restore the patient most promptly to a normal state of health.

DISCUSSION.

Dr. Edwin Ricketts: I have been very interested and entertained by this paper. In reference to the matter of gloves, I can readily understand how a man teaching pathology, and handling pathological specimens, or doing general surgical work, might resort to the use of gloves, but I cannot understand how any abdominal surgeon or gynecologist can lay the stress upon their use as the essayist has done this evening. I would call attention to the fact that even in Germany gloves are rather out of style, if I may use that expression. I have been present when operators have made use of them, and also had their assistants gloved; in fact, I witnessed an operation not many months ago in which these conditions prevailed; the operator had a leaky glove, but the patient went on to a recovery notwithstanding the gloves leaked.

In reference to the face mask, I do not want to be considered as being antagonistic to anything of benefit, or along the line of precautionary measures, but I can hardly see the use of the face mask in all cases.

In regard to vomiting and the washing out of the stomach to prevent it, I think there are cases in which it is best to wash out the stomach, but I do not believe in every patient in which vomiting occurs it is a good thing to wash out the stomach.

The essayist has spoken of the anesthetic used, and he seems to use ether almost altogether. There are those of us who believe in the use of chloroform, especially when administered through the Harker chloroform regulator, which will permit of an anesthesia of an hour with the use of less than six drachms of chloroform, with no stage of excitement following its use. This certainly shows that the oldest anesthetic is yet to be considered and not looked upon with disfavor.

The shaving of the patient I do not think is a thing to be resorted to in every case, nor do I think it a good practice to use the soap poultice in every case.

Rapidity of operation is one thing that must be taken into consideration. A man must not be two or three hours in doing an operation which can be done in thirty minutes, or an hour at the longest. I think one reason Lawson Tait and some of our other great operators had the success they did in the days before anesthetics were used was that their operations were performed with great rapidity. I think the tendency now is to keep the patient under the anesthetic possibly too long.

In regard to the saline purgatives, I think the idea advanced by the essayist of giving the patient a saline physic thirty-six hours previous to the operation is a good one.

In regard to nourishment, I think the point is well taken by the essayist not to give any food in from thirty-six to forty-eight hours after the operation, and then begin with an exceedingly light diet.

Again, I can heartily agree with the essayist that it is necessary to keep patients in bed after an abdominal operation for twenty-one days. I know of some operators in this country, and also abroad, who after an operatinn for inguinal hernia, for instance, will get their patients up on the third day and get them around as soon as possible

As to the length of the incision, I wish to say whenever it is possible to get along with a short incision the patient will do better if you make it as short as possible; then if it is necessary to lengthen it all right. There is not the shock following a short incision that there is in a long one.

I believe the point in reference to drawing on the mesentery is a good one—that is, concerning the shock that follows this procedure. As the essayist has said, you can take the intestines out and carry them through your fingers looking for a gunshot wound, for instance, from one end to the other; but whenever you make tension or draw in any way upon the mesentery, you are making use of a procedure which is very dangerous in so far as shock is concerned.

The suggestions made by the essayist in regard to keeping the patient warm are good, and are points which all operators recognize. The abdomen should not be exposed unduly during the operation.

Dr. Rufus B. Hall: I have been very much interested in the paper of Dr. Whitacre. I do not know that the doctor has deviated very widely from the well-recognized methods of managing patients both preceding and following abdominal operations, and I do not think any of the operators of to-day would differ very markedly from the plan outlined by him. At the same time I know that every operator has his own peculiar way of doing things. The discussion has brought out many little points in which the individual operator has differed from the essayist's plan of procedure, and that does not say that they are all of them about correct. I think if we would follow the doctor's plan *in toto* we would not go very far wrong. It might seem that some of the doctor's methods go to the extreme; at the same time riper experience may prove that he is correct.

I believe, like the essayist, in order to insure the largest measure of success the thorough preparation of the patient must be looked after, down to the smallest details. Before, during and after the operation the smallest details must be looked after. The man who gets the largest measure of success is he who looks after the largest number of details and carries them out to a mathematical certainty. I feel so certain that the thorough preparation is all right that I will have the details the way I want them even though the operation appears like a rather insignificant one. I like to have my patients in the hospital three days before the operation, two nights at least, but three is better. They must be in two nights always unless it is a case of extra-uterine pregnancy, strangulated hernia or something that must be operated upon in short order.

In regard to preparing the abdomen for operation—that is, the cleansing of it—I think I can get them clean without so much preparation as employed by the doctor. I have the abdomen scrubbed with green soap and water, and then that is rinsed off. After that it is washed with alcohol in order to cut the grease, then a bichloride pack is put on and bandaged there. This is done on the evening preceding the operation. In the morning the patient is sent to the operating-table with the bichloride pack on her abdomen (the strength of it is 1 to 2,000). This pack is removed and the abdomen is washed with alcohol and then with bichloride solution. This takes but a very short time. Of course, other men have a different method of procedure, but I believe I get as good results in wound closures and in minimizing abscesses as a man ought to expect.

In reference to washing out the stomach, only a small proportion of patients will vomit after you have gotten them to bed unless there is some special reason for it, like intestinal obstruction, etc. If I washed the stomach out I would want to do it before the patient left the operating-table. Vomiting is only a symptom, and it is a symptom of some condition which is present. It is not the vomiting that you wish to get rid of *per se*, but the condition that produces it. Patients vomit, for instance, when they have peritonitis, and when they have sepsis. They do not vomit because there is something in the stomach that they want to get rid of, but because of the other condition. Of course, if you can stop the vomiting that is so much in their favor, but I do not believe it will stop until you remove the cause of it. I believe, instead of washing out the stomach, in many cases if you will give them a pint of hot water they will wash out their own stomachs, and I think this is better than using the stomach-tube. If, however, experience proves that every patient is better or improves by washing out the stomach I am willing to do it. It is our duty to do everything that conduces to the welfare and comfort of the patient. However, washing out of the stomach does not always do what we hope it will do. In peritonitis or sepsis just as soon as there is an accumulation in the stomach the vomiting will begin. If you can start the contents of the intestines going the proper way, thus unloading them, you help to remove some of the poison, but I have seen patients die after their bowels had been thoroughly moved—that is, in cases of peritonitis or sepsis. I, like some of the speakers, tried various ways to get the bowels moved after operation. For years I have allowed them to go two and three days if they felt comfortable and well, and only gave them a physic when they commenced to feel badly, and I am still satisfied with it. If the case is a clean one the doctor can let the bowels alone as long as things are moving along smoothly. If, however, you have a pus case, an ectopic gestation with foul-smelling blood clots, etc.; if you have an appendicitis case with a walled-off abscess, a septic condition to deal with in the ovaries, etc., these are cases in which the operator feels uneasy until he gets the bowels to move. In such cases it is well to commence calomel early. If you allow them to go until they get to vomiting with their abdomens enormously distended they will probably die. Every case, however, is a law unto itself, and every operator has a way of his own in dealing with these cases.

In regard to drainage, I use drainage when I have dirty cases, pus cases, etc., but I do not use it unless the case is a dirty one. I want to have a special reason for using it before doing so, and I use it rarely. That brings up a remark made by the essayist, viz., that he thought every abdomen opened would be better treated if it was washed out with hot water. That statement does not tally with the present work of most operators. I presume that I wash out one abdomen in a hundred, or one hundred and fifty, where formerly I washed out a great many. I do try to do my operations with as little water as possible in the abdomen. Do it as cleanly as possible, protect the field of operation, walling it off with sponges and gauze and keep the intestines protected. Simply do the operation outside the body, having everything else protected. I employ no drainage except in pus cases or where there is something of a similar nature.

Dr. J. Ambrose Johnston: There are a great many little details both before and after an operation which conduce to the comfort and welfare of the patient. I do not believe the use of soap poultices in these cases is the proper thing. Time was when we scrubbed the abdomen pretty thoroughly with stiff brushes, as the previous speaker has mentioned, and tried to get off as much of the epidermis as it was possible to take off, but to-day we do not go to that extreme. I think that there is no doubt but that the soap poultices and the stiff brushes will irritate and congest the skin so that we are more likely to have stitch abscesses I think we can go a little too far in that direction.

So far as the use of the mask is concerned, I have thought sometimes it was a good thing, but when I have used it I found that it embarrassed me greatly in my work. When I got it over my nose I found it hard to look over it; it interfered with my vision. Then, again, it bothered me in my breathing, and made me feel very uncomfortable. I do not think any surgeon is in the best condition to do good work when he feels uncomfortable.

In regard to the wearing of gloves during an operation, I believe they have their good points, and also their bad. If one has finger-nails which are smooth and easily cleaned, and his hands are thoroughly sterilized, I do not think gloves are necessary. On the other hand, if one had ragged finger nails which are difficult to clean I believe it is best to use gloves. I also think gloves have their dangers. It is well known if the hands have been heated up considerably, even after a thorough cleansing, the germs will sweat out of the pores of the skin of the hands, and if the glove or gloves get punctured, the germs will escape from the glove and may infect.

In regard to the washing out of the stomach, I do not believe I should want to use it as a routine practice. I believe in some cases it acts very well. I do not see why it should always give relief to the patient, because the anesthetic is thrown out into the intestines as well as into the stomach, and is excreted for hours after the operation.

In regard to cathartics after the operation, I believe it is well to get the bowels to moving as soon as possible. I do not like to delay until the third, fourth or fifth day. I like to get them moved on the second day if possible. Dr. Byford, of Chicago, has reported quite a list of cases operated upon, and in all of his cases he got the bowels moved on the first day and kept them moving right along thereafter. He gave them cascara in the morning of the day of the operation, before starting the operation. I think he had something like one hundred and twenty five consecutive recoveries from operations, and he attributed his good results to the use of laxatives from the beginning.

Dr. C. D. Palmer: I have certainly been very much pleased with the paper presented to-night, and I shall read it with much pleasure when it is published. Almost everyone here has different methods to pursue when making abdominal section, but we all harmonize in the majority of points.

As to the use of gloves, I have never made use of them except once. I have generally preferred my hand made as clean as I could make it, because of the tactile sensibility which I possess, and which I do not think I have when gloves are employed. I have never employed the face mask, nor any special apparatus of this kind.

As to cleansing the abdomen before an operation, I have been in the habit of having the abdomen washed with German green soap, and then abundantly cleansed with sterilized water, after which a sublimate water is used. A sublimate poultice of gauze is laid on over the night before. The patient should have taken three general baths on previous days. Before the operation I first wash my hands with green soap, then immerse in alcohol, followed by an immersion for several minutes in sublimate water, 1:2000. The sublimate lotion is always re-applied immediately preceding the incision.

Shock is a very important thing to be counteracted. If it should manifest itself I have always ready a hypodermic of strychnia, $\frac{1}{60}$ grain. It has been my habit to have administered to the patient, before the anesthetic is given, about $\frac{1}{6}$ grain of sulphate of morphine and $\frac{1}{250}$ grain of sulphate of atropine, as I think the patient will go under the influence of the anesthetic more quickly, and require less of it, if this procedure is carried out. I think it also sustains the heart's action. I prefer chloroform as the anesthetic, and next to that the A.C.E. mixture. No doubt ether is safest, but the effect depends more on the administrator than does the choice of the agent. I have never resorted to the use of the nitrous oxide-ether anesthesia, but I believe it is a good thing to commence an operation with, and then give the anesthetic preferred afterwards.

As to moving the bowels, it has been my custom to have the bowels moved, commencing on the second day, using for this purpose calomel in small doses, which is followed by a saline cathartic. I like a saturated solution of sodium phosphate in preference to the magnesia. I recently read an article (I think it was sent to me in pamphlet form from a physician in Boston) which recommended for the purpose of moving the bowels after operations the following combination of drugs: Aloin, gr. $\frac{1}{6}$; extract of belladonna, gr. $\frac{1}{8}$; strychnia, gr. $\frac{1}{60}$; and eserine, gr. $\frac{1}{60}$. This was given the night of the operation, and then administered every day after the operation, when the movements occur. Eserine is worth much consideration in these section cases.

If the patient has lost a considerable quantity of blood (which, of course, we try to avoid), and shock is manifest, there is nothing so useful as the giving of strychnia in small doses hypodermatically, and also administering the saline solution abundantly as needed. I witnessed a good many operations made by Howard Kelly, of Baltimore, some years since, and I noticed he was in the habit always of injecting into the rectum about a pint of hot salt water, before the patient was removed to her bed, and he would have it retained until absorbed by the application of a towel at the anus. I think it was Dr. Wiley, of New York City, who drew the attention of the profession to the great advantage in shock of pouring into the abdominal cavity hot salt water at a temperature of at least 110°. It was noticed by him, and has since been noticed by others, that the pulse will rise and become stronger by so doing.

Dr. R. B. Hall: Do you mean to say in every case?

Dr. Palmer: In every case in which the abdomen is opened I would use a considerable quantity of hot salt water, and if some remains there is no harm done. It diminishes thirst, favors reaction, and increases the secretion of urine.

Dr. Magnus A. Tate: I have been much interested in the paper which Dr. Whitacre has presented, and a good many points were brought forth in a trite way. I agree with nearly all that he has said, but there were one or two points on which I would like to say a few words.

In reference to cleansing the abdomen, a few years ago it was the custom, and it still prevails even in some of our modern hospitals, when the patient is put on the operating-table, to vigorous y apply a stiff brush to the abdomen for the purpose of thoroughly cleansing, and by the time this cleansing process is gotten through with the abdomen is not only red, but all of the skin is taken off, and it seems to me we offer a very good field for germs to get in their work on a raw surface. This, I believe, is one of the causes for suppuration in wounds.

Too much handling of the intestines when they are outside of the abdominal cavity, drawing on the mesentery. the permitting of the intestines to get cold (as so many times happens), are some of the causes for shock, and another one is the handling of abdominal tumors more than is absolutely necessary.

In reference to persistent vomiting the washing out of the stomach just immediately after or at the time of operation, is good practice, and all operators may sooner or later adopt this procedure. It does seem to me that after the patient comes out from the influence of the anesthetic, it would be better to allow such patients to drink a good deal of hot water, putting a little soda into it. Allow them to drink from a pint to a pint and a half, then the vomiting is not hard, the stomach will be washed out, and much irritable matter will be done away it. The stomach-tube is a very disagreeable-looking object to many patients, even when well, and sometimes, if we persist in the use of the tube, it throws them into a nervous state almost bordering on a spasm.

There was one thing more the essayist spoke of, and, if I understood him correctly, I cannot agree to. He says in all of his abdominal work he leaves a drainage-tube in, even if it is a clean case.

Dr. Sigmar Stark: It is the old story of many roads leading to Rome. I believe that we are all practically united on the points brought out in Dr. Whitacre's paper in connection with the management of our abdominal sections, but we carry them out with varying details. For myself, I will say that I do everything in about the same manner as Dr. Whitacre does. I have my patients prepared in the same way and give them a laxative as he does, but when I am in a position to have it done I give by preference castor oil forty-eight hours before the operation, and I give a good big dose. I think this induces a more effectual clearing out of the bowels than anything else. The night before the operation it is my custom to give epsom salts. The preparatory cleansing of the abdomen I have executed in practically the same manner as is customary with the essayist.

In regard to the gloves and face mask, I discarded both of them after trying them for awhile, and I am egotistical enough to say that I believe I get as good results as anybody without them. I do not have peritonitis, or so little of it that it is not worth counting, and I have very few infections. It is customary for me to see my patients pass through their period of convalescence without any complication whatsoever.

A few words on the subject of shock. The pathology of this condition consists practically of a dilatation of the visceral blood-vessels due to a splanchnic paralysis. One of the ideal remedies for this state is adrenalin given by hypodermic injection, and also normal salt solution subcutaneously or otherwise. I believe that I have succeeded in saving lives by the employment of these agencies. I wish to call attention to another remedial agent which I have been using for some time, and which in the first instance I did not appreciate the value of, nor did I then understand its action, and that is the ice-bag. Several years ago I commenced using the ice-bag in patients twenty-four hours after an abdominal operation, because of a rapid pulse and of some distension of the abdomen. I did this with the idea of preventing peritonitis. The ice-bags were liberally applied over the abdomen, and in a very short time I almost froze the surface. I am now firmly of the opinion that I brought many of these patients out of a state of shock by inducing a contraction of the visceral blood-vessels through the employment of the ice-bag. At the same time I also place hot-water bottles all about the extremities so as to excite a dilatation of the peripheral blood-vessels. The essayist spoke of the use of digitalin in shock. It seems to me digitalin is paradoxical in its action in shock; it acts exactly opposite to what we want it to act. In shock we have a dilatation of the visceral blood-vessels, and all of the blood is being pumped out of the heart into the visceral vessels. We do not want to strain the heart's action; we do not want to add to its burden by stimulation of the vagus nerve through the action of digitalin, so that I feel that digitalis or digitalin is not a remedy to be employed in shock. I rely, as I said before, upon salt water transfusions, adrenalin, and ice bags

I would also like to call attention to another thing which I have seen upon several occasions, and that is paralytic ileus resulting from pressure. I am satisfied an excessively tight bandage, or strips of adhesive plaster around the abdomen, will bring about this condition Paralytic ileus is frequently the result of direct trauma, but sometimes of a reflex paralysis of the splanchnic and celiac ganglia in consequence of traumatism to the pelvic ganglia, the trauma being transmitted through the superior and inferior mesenteric plexuses. Add to the sympathetic trauma the additional traumatic influence of a tight bandage and you can induce paralytic ileus. I have a number of times seen patients recover from what seemed imminent death from paralytic ileus by simply loosening the bandages.

I wish also to call attention to a most valuable remedy which has recently come into use in the treatment of post-operative conditions, one to which Dr. Palmer has referred, viz., eserine salicylate. It is almost a specific for paralytic ileus. In cases in which there is over distension of the intestines, with constipation and possibly vomiting, it is my custom to administer $\frac{1}{60}$ grain of eserine salicylate hypodermatically. It usually takes about two hours for the drug to act, and in very severe and threatening cases of paralytic ileus I have no hesitancy in giving a second dose at the end of that time. After the administration I give a purgative enema of practically the same ingredients as mentioned by the essayist, adding about a half-ounce of glycerine. I introduce this mixture high up and allow it to remain four hours, and then if purgation does not ensue I give a two quart soapsuds enema. It is surprising to see what grave forms of paralytic ileus can be overcome by the use of eserine salicylate. I have read of grave cases in which fecal vomiting occurred in which the tonus of the bowel was restored through the hypodermatic administration of this drug.

In regard to the employment of stomach lavage, when I read a paper on this subject in one of our medical journals some few months ago, I was at once impressed with the fallacy of the principle upon which this idea was based, *i.e.*, the washing out of the ether eliminated by the stomach and likewise that swalllowed in the saliva. At the termination of the operation I believe only a small part of that which is to be eliminated has undergone elimination. The major part of it is subsequently thrown out by the stomach, so you get rid of only a small part of it by early stomach lavage. In place of giving small quantities of water ten or twelve hours after the operation I have the nurse give a large tumblerful of hot water, and repeat it several times. I find that this water is usually ejected once or twice, and possibly three times. There are cases, however, in which stomach lavage is good. I had a case of gastro-enterostomy for ulcer in which the patient did very nicely for the first twenty-four hours. The second twenty four hours she developed a hemorrhage and vomited clotted blood. This we allowed to continue during the second day and the second night, and in the morning of the third day she was very much exhausted, and she continued to bleed profusely until control of the hemorrhage was obtained through lavage. Her stomach was washed out three times that day, morning, noon and night, which made her very comfortable, and started her on the good road to recovery.

Dr. Whitacre (closing): I am certainly gratified to have such a free discussion of my paper, since it is my belief that those papers are of most value to a society which call forth discussion.

It was my purpose in the paper to call attention to certain general principles of treatment, and indicate briefly my personal method of carrying out the detail in such treatment. This recital of detail methods must not be taken to imply condemnation of other methods of detail which in the hands of other men are giving results equally good.

The question of gloves has been referred to a number of times. I use gloves in all cases. I do not use them, however, because I am a dirty pathologist, or because I come more frequently in contact with infectious germs than does the gentleman who made this suggestion. I use them in pus cases, in occasional autopsies, and in handling pathologic specimens, for the express purpose of keeping my hands clean, and I wish to say, furthermore, that I do this conscientiously, and I may say almost without exception.

Gloves are used in the clean cases for the purpose of protecting the patient against any germs that may be on my hands. My hands are just as rigorously scrubbed and sterilised before drawing on the gloves as are those of the man who does not use gloves. I therefore put so-called sterilized hands into gloves which are sterilized to the extreme limit. The gloves do not impair my efficiency in operating, nor do they impair the sensitiveness of my touch in scarcely any instance, and I have become thoroughly accustomed to their use. Punctures of the gloves do occur, and occur frequently, but I never begin an operation without one or two pairs of gloves in the salt water, and when a puncture does occur I immediately replace the punctured glove by a fresh one.

In putting on the gloves I always place a roll of gauze around the wrist to prevent water from flowing out at the wrist into the abdomen. I feel perfectly safe when I have gloves on my hands, even though they should become punctured, because I know the hand inside has been as thoroughly sterilized as possible and that anything coming from within is relatively sterile. Whether more germs are brought out by perspiration under the glove than would come from an ungloved hand, I cannot say, but it would seem to me that this, too, must be a very unimportant claim. The first few drops of perspiration probably wash out the infectious material. I feel particularly safe, also, in having my nurses gloved, especially those who handle the sutures. Catgut is very liable to be contaminated by handling, and if sterilized gloves are used this cannot occur.

The face mask is considered by many unnecessary. I feel that I cannot say much more in reference to this than I have already said in the paper. I feel certain that there are germs in my nose and mouth, which I cannot get rid of by sterilization, and the face mask offers a protection from these. It does not interfere with my vision, and I will not permit assistants to say that it interferes with theirs, since I want them masked.

The soap poultice has been referred to several times. This is a matter of detail which I feel is essential to cleanliness. I do not feel that it is an argument against it to say that a patient prepared in another way gets well. Of course, patients cleansed in other ways get well. We all go into the country to operate in houses which may contain but two rooms, and where the details of cleansing the abdomen as we would like cannot be carried out. We go ahead with these operations nevertheless, and get good results. I have never had a drop of pus in my country operations, and obtain primary union in my operations for strangulated hernia, appendicitis, etc. The soap poultice removes the superficial epithelium which harbors the germs, and gives us an opportunity of reaching the infectious material.

Probably the most efficient antiseptic that is used in the preparation is alcohol. It does more to sterilize our hands and our patients than any other germicidal agent which we possess, if the recent researches of certain men are of value. I wish to apply my alcohol and bichloride to the tissue underlying the superficial layers of the skin, and it is for this reason that I use the soap poultice.

Speed in operating has been spoken of as a most important factor. This I believe in thoroughly, yet I do believe it is possible for a man who relies upon speed for everything to get up too much momentum. He will go so fast that he will do something imperfectly. This we cannot afford to do. There are times in operative procedure when a man cannot go fast, no matter what his ability or skill. We must take enough time to do our work carefully and safely. Because a man can do an uncomplicated herniotomy in twenty minutes (and any one of us can do this) does not mean that we can do every one of our herniotomies in twenty minutes, or in one hour and twenty minutes.

The length of the incision has been mentioned. A short incision, if it can be made, is, of course, preferable, but a long incision is no more dangerous than a short one. Different operators need different lengths of incision. I may need a longer incision than some other operators. Personally I want an incision of sufficient length to work safely and carefully, and my incisions would probably be called long by the gentleman who has made this point I do not believe that shock is much greater in a long incision than it is in a short one; it is not this that causes the shock. If we can bring the intestines down in one mass with one sweep of the gauze or abdominal sponge when the patient is placed in the Trendelenberg position, and in that way get them out of the way, we are eliminating a more important factor in the production of shock. The method of washing and cleansing the abdomen preparatory to incision has been mentioned as an element in shock. I feel that this is not an element in shock when the patient's abdomen has not been opened. Above all, I want my patient clean when I start my operation, and I think this is very essential. Very often our preliminary dressings become loosened in handling or during struggling, and patients come to the operating-table with some part of the operative area exposed. I do not wish to take this risk, and have for this reason established the custom of re-scrubbing after the patient is on the table.

Secondary washing of the stomach has been objected to—that is, the washing after the patient has been returned to the room. It is just this type of secondary washing that I feel is so valuable in certain cases. The stomach-tube I have come to rely upon as a very good friend, because it has helped me out of some very mean positions. After an operation the stomach is practically inert, and anything that is in it, or that is subsequently regurgitated, is not passed on into the bowel. The stomach has lost its tone, and with an accumulation of material in the organ it seems most natural and rational to use the stomach-tube and remove this material. I have removed a gallon of nasty brown material from the stomach in from six to twelve hours after an operation. These patients usually show such prompt relief from the secondary washing that there seems to be no escaping the conclusion that it is a most beneficial procedure. I do not use it by any means in all cases, but in cases of persistent vomiting.

The point has been brought up as to why patients vomit. They vomit usually because there is something in the stomach to be vomited. It is true, vomiting occurs from irritation lower down, *e.g.*, appendicitis, but if we empty the stomach even in such cases patients will often stop vomiting entirely. We have a most striking demonstration of this fact in the treatment of acute appendicitis. I treat cases of appendicitis seen after the first forty-eight hours by the so-called rest treatment unless an urgent operation is demanded. These patients almost always vomit because of the peritoneal inflammation. If in such cases the stomach and the colon are thoroughly washed the vomiting will cease and the patient will be perfectly comfortable thereafter. This relief is due solely to the removal of the irritating material in the stomach. I wash out a patient's stomach after an operation for the purpose of getting rid of the anesthetic-laden material contained therein. I do not pretend to say that it is an absolutely established procedure; I can simply report to you the results obtained in cases which I have washed out. It seems to me that the objection brought up by Dr. Stark, while an argument of some force, may be answered by the statement that a large percentage of ether containing mucus which has been secreted is removed; then the patient is able to take care of that which is eliminated later, after the ether has been completely withdrawn. Most of it comes out through the respiratory passages.

As to the question of moving the bowels, I feel that this is another matter on which we cannot come to an agreement. Ochsner has very conclusively shown that arrest of peristalsis will contribute greatly to the limitation of peritoneal inflammation and infection. It seems to me that septic cases are the very ones in which we ought to keep the bowels closed and in which we ought to inhibit peristalsis by keeping food, drugs, etc., out of the intestinal tract. There are indications, however, which call for the early use of cathartics.

I am very glad to hear the reports made tonight regarding eserine. While I have known of the drug and had expected to use it, I have had no opportunity of applying it in the type of cases presented. I have not seen a case of peritonitis or of post-operative paralysis in three years, this period covering a number of cases. I have, perhaps wrongly, attributed the absence of these post operative conditions of sepsis, infection, or paralysis of the bowel, suppression of urine, etc., to the great care which I exercise in detail in the prevention of the introduction of infection as outlined in the paper. I shall, however, make use of eserine when such cases present.

Dr. Tate misunderstood me on the drainage question. I, of course, do not use drainage in all clean cases. I referred only to the use of drainage in certain cases, *e.g.*, in a case of early appendicitis where we find a sero purulent fluid present which we feel is on the borderline. In kidney operations I always leave gauze in for drainage, in floating kidney, in a nephrectomy, etc. In gall-bladder cases drainage is always used. My rule is to drain a dead space or a cavity in which contamination is suspected. The point I wish to make is that drainage does not interfere with the completeness of the closure of the abdominal incision. We can get primary union even though we use drainage.

The routine use of hot salt solution in the abdominal cavity does not appeal to me. I give my patient the same results by a continuous flow of salt water into the rectum. I believe the patient benefits by the hot water in the peritoneal cavity by reason of the fact that we put it into a cavity where there is a rapidly absorbing surface and the patient benefits by reason of his getting a large amount of liquid into his vessels in a short space of time. The same thing can be accomplished by intra-venous or rectal use of salt water.

I do not agree with the ideas of shock that have been advanced to-night, nor do I believe in the use of strychnia as advocated by several of the speakers. The action of strychnia has been investigated very thoroughly by Crile, of Cleveland, and he has proven it to have the same depressing effect on the vaso-motor centres that occur in shock. We are therefore intensifying the lesion by the use of strychnine. In such a condition we want to do everything we can to tone up the arteries. I usually give adrenaline in large doses (m. 15) every three hours for the purpose of re establishing tone in the blood-vessels and try to get up some peripheral resistance.

A great many points have been brought up in the discussion which time limitations do not permit me to discuss further.

THE TREATMENT OF SO-CALLED INCURABLE CHRONIC DISORDERS BY THE PHYSIOLOGIC METHOD.*

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In the last twenty-five years the medical profession has been making rapid strides out of the wilderness of blundering empiricism into the domain of science. Medicine is no longer merely an art, with methods based upon blind experience and ruled by changing fashions. The great discoveries of Liebig and Lehman and the science of physiologic chemistry which they created prepared the way for the epoch-making work of Bouchard on auto-intoxication, which has wrought a veritable revolution in medical theories and practices. Bouchard and his pupils, and others who have followed in the footsteps of this master, have shown us that the body is a veritable factory of poisons; that, in addition to the well-known carbon dioxide, urea, uric acid, and other toxic substances, the body produces a multitude of far more subtle and infinitely more potent and mischievous poisonous bodies—the by-products and end products of normal metabolism or the result of abnormal metabolic processes.

The exhaustive researches of Bouchard, Roger, Charrin, and Boix, and in recent times a multitude of investigators, have traced to these poisons the origin of a very large number of the chronic nervous disorders, the diatheses, and the various degenerative processes. Modern physiology has made clear to us the fact that these tissue poisons are normally disposed of, not alone by elimination, but also and chiefly by destruction through the agency of certain organs which promote their oxidation and certain other organs which produce antidotal and antitoxic substances. In fact, it has been clearly shown by Charrin that the poison-destroying activity of the liver, and the development of antitoxic internal secretions by the thyroid gland in the suprarenal capsules and various other structures, constitute one of the most important of the body's defenses against disease.

The knowledge which recent physiologic researches have given us respecting the methods by which the vital forces fight against invading microbes and other agents antagonistic to the body, together with the revelations of physiologic chemistry, have paved the way for a new therapeutics, the chief aim of which is the development of the natural disease-resisting resources of the system. The physiologic method is widely different from the therapeutics which have preceded it. Its procedures are simple and based upon well-established physiologic facts. In principle it recognizes that the physician is not a healer; that the remedies which he applies possess no healing power, but all healing power is in the body itself, and it is the blood that heals; that, as the wise Dietl said long ago, the Power which creates and maintains must also be able to heal. Recognition of this principle greatly simplifies therapeutics. The physiologic therapeutist in dealing with a patient seeks to find out what is wrong with his nutrition, where metabolism is at fault, what morbid condition lies back of functional disturbances or organic changes in vital parts. Then he seeks to so influence nutrition, metabolism and functional disturbances as to aid the diseased body in the struggle it is always making to restore the equilibrium of health.

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Fortunately for the therapeutist, the physiologic method supplies measures which are possessed of marvelous potency to influence life processes. The general movement of the blood and its distribution, muscular and nervous excitability, and especially those settled and intimate vital processes which concern blood formation, tissue building, and the various forms of metabolic activity, can be more accurately and more certainly controlled in either direction by physiologic measures than by any other. It is only necessary to recall the wonderful influence of a general cold application, or even a brief cold application to the chest, upon the depth and rhythm of respiration and strength and energy of heart action. The familiar example of a dash of cold water upon the face of a fainting person affords sufficient proof of this. Cold applications afford one of the best known means of raising blood pressure quickly and safely. The effect is instantaneous. There is no waiting for the tardy results of absorption, and a response is always secured so long as the nerve centres are intact. Warm applications, on the other hand, afford a means whereby blood pressure when too high may be almost instantaneously lowered to any extent required. Exercises, both active and passive, friction, and various of the procedures of massage may be employed with like results. Cold compresses or ice-bags over the pericardium are more effective measures of stimulating to normal activity a flagging heart than any drug known, and this procedure has the advantage that the effects obtained are immediate and may be reproduced as often as required. The heart responds the thousandth time the application is made just as readily as the first time. Physiologic therapeutics do not lose their effects through the development of tolerance on the part of the body. On the other hand, there is an increase of susceptibility and of readiness in response as the result of improvement in the general vital condition.

The resources of the physiologic method are not meager. They are, in fact, almost infinite in variety. For example, we have about two hundred different hydriatic procedures, each of which is capable of producing effects widely different, in some instances directly opposite, by variations in temperature, duration, and combinations with other measures. Hydrotherapy may be credited with at least a thousand distinct therapeutic applications. Massage adds hundreds more. Medical gymnastics, as perfected by the Swedes, present several hundred more. Electricity has resources by the score which are little appreciated by those who are unfamiliar with the physiologic method. Phototherapy, radiotherapy, mechanotherapy in its various forms meet scores of therapeutic indications.

The value of the physiologic method has come to be well recognized in the treatment of acute maladies, particularly typhoid fever. Roger, in his great work on "Infectious Diseases," asserts that: "in combating it, preference should be given to those methods which favor the dissipation of heat, while those that hinder nutritive activity should be avoided. Cold baths offer the best method, since under their influence heat is rapidly dissipated at an increased rate, and nutrition is at the same time stimulated. This method may, therefore, be considered as a natural one; it is suggested by the procedure utilized by the organism itself." As Kast, Rovighi and others have shown, it is not the elevation of temperature which is to be combated, but simply an exaggerated temperature elevation. Moderate fever is the method by which the body combats infection, as it stimulates the activity of the leucocytes (as shown by Morel) and increases the germicidal power of the blood. Scientific researches have clearly shown the absurdity of dosing the fever patient with antipyrine, alcohol, quinine, or any other so-called antithermic or antipyretic drug. All of these drugs lower the vital activity and lessen the resisting power of the body.

What is true of the drugs mentioned is true of many others. Dr. Billings, President of the American Medical Association, in his address last year at New Orleans, made the assertion, almost without qualification: "Drugs do not cure." Yet many thousands of medical men still plod on in the old beaten paths of artificial therapeutices, dosing their patients with varied drugs and combinations of drugs, regardless of the irrational character of such a course, and content that they have abundant authority and precedent for what they do.

But a new day is dawning, and it may almost be said to have dawned. In Germany, at least, under the leadership of Von Leyden, Ewald, Ziemssen, Brand, Liebermeister, and other progressive men of genius, physiologic medicine has rapidly won its way to popular favor. Emperor William has honored the method by the weight of his enormous influence. King Edward, in England, has had installed in his palaces, Windsor and Buckingham, and with the approval of most eminent members of the profession, elaborate appliances for the use of the physiologic method, by the employment of which he has cured himself of gout and chronic appendicitis.

In this country progress is also being made. Thousands of physicians are discarding more and more the routine use of those pernicious hypnotics, the bromides, chloral and similar drugs. Morphia and strychnia are less used than formerly, and the coal-tar derivatives are rapidly falling under suspicion of being more potent for mischief than the conditions which they are often given to palliate.

Alcohol, which has held its own as an almost panacea for centuries, is at last losing prestige. If it is still sometimes recommended in connection with the cold bath, it is only because its effects and those of the cold bath are not fully understood or appreciated. The idea upon which this practice is based is evidently the supposition that alcohol is a stimulant, at least that it in some way sustains the heart or the vital powers. But this theory was long ago rendered thoroughly untenable by a multitude of carefully conducted experiments upon healthy subjects, showing that alcohol is always and in all doses a narcotic, and not a stimulant; that it depresses, and does not excite the heart and other vital organs; that it lessens vital resistance to disease; and that it is a toxic agent which the body must cast out, and not a food to be assimilated or a source of energy or an aid to any vital organ or function.

The relation of alcohol to the heart and the circulation is a matter of most profound importance in the class of cases in which the cold bath is most frequently employed. It should be remembered that the heart is not the only force involved in the circulation of the blood. It is doubtless the great engine of the circulation, but it has been clearly shown by Schiff and numerous other physiologists that the movement of the blood is greatly aided by the rhythmic action of the small vessels, both arterioles and capillaries. These contractions are not simultaneous with those of the heart, hence do not interfere with its action; but as the pressure in the veins is very much below that of the arteries, these contractile movements serve most efficiently in pushing the blood along toward the veins. The heart keeps the large arteries pumped full of blood, while by means of the contractile movements of the peripheral vessels, the blood is, so to speak, milked out into the veins. We may say, in fact, that there are two hearts concerned in the systemic circulation, the work of the central organ being supplemented by the peripheral heart—the small vessels—working at the distal end of the vascular loop, where the resistance is greatest.

In passive congestion and all conditions of the circulation in which a cyanotic appearance is present, the usual condition is slowed circulation. The blood current is slow through cardiac weakness, or the lack of the active assistance of the peripheral heart; as a consequence, an insufficient amount of oxygen is introduced into the body, the blood is charged with CO_2 and other tissue poisons, and all the vital processes are depressed. To aid the heart and the circulation the thing needed is not simply an increased rate of activity of the heart, or an increased volume of the pulse, but an increased movement of the blood current throughout the entire system.

In the application of any agent for the purpose of relieving conditions of this kind, the peripheral heart as well as the heart itself must be taken into consideration. In fact, the whole circulatory system must be regarded as one. The heart and the arteries are composed of essentially the same kind of tissue, and have practically the same functions. The arteries and capillaries as well as the heart are capable of contracting. Both the heart and the arteries are controlled by excitatory and inhibitory nerves. These two classes of nerves controlling the heart and the vessels respectively are kindred in structure and origin, the vagus and the vaso-dilators being medullated and of spinal origin, while the accelerators of the heart and the vaso-constrictors of the arteries are non-medullated.

The cold compress applied over the cardiac area of the chest may well replace alcohol as a heart tonic. The thing necessary to encourage the heart's action is not mere relaxation of the peripheral vessels, but, as Winternitz has shown, increased activity of the peripheral circulation in the skin, muscles and elsewhere. Alcohol paralyzes the vaso-constrictors, and so dilates the small vessels and lessens the resistance to the heart action; at the same time it lessens the energy of the nerve centres which control the heart, diminishes the power of the heart muscles, and lessens that rhythmical activity of the small vessels whereby the circulation is so efficiently aided at that portion of the blood circuit most remote from the heart.

A cold application to that portion of the chest overlying the heart reflexly stimulates and energizes the heart through the cardiac nerves. This reflex action is not confined to the heart muscle; the stimulation of the activity of the cardiac vessels improves the circulation through the heart structure, refreshing and energizing it in the same manner in which a voluntary muscle is energized by a cold application, as is well shown by the ergograph.

It is well to remember that the vaso-constrictor nerves are one in kind with the excitors of the heart. while the vaso-dilators are in like manner associated with the vagus. With this in mind, it is easy to see that while alcohol paralyzes the vaso-constrictors, it at the same time weakens the nerves and the ganglia which initiate and maintain the activity of the heart. Cold, on the other hand, excites to activity these nerves and centres, and thus produces the opposite effect.

The apparent increase of strength which follows the giving of alcohol in cases of cardiac weakness is delusive. There is increased volume of the pulse for the reason that the small arteries and capillaries are dilated, thus lessening resistance and cardiac work; but this apparent improvement is very evanescent, as naturally results from the fact that while the heart is relieved momentarily by the sudden dilatation of the peripheral vessels, the accumulation of blood in the venous system through the loss of the normal activity of the peripheral heart gradually raises the resistance again by increasing the load of blood which has to be pushed along in the venous system. This loss of the action of the peripheral heart in the end more than counterbalances the temporary relief secured by the paralysis of the vaso-constrictors. This accumulation and sluggish movement of the blood in the venous system is shown by the purplish hue of the skin in a person under the influence of alcohol—a wide contrast to the ruddy glow presented by the skin in which the small vessels are actively engaged in pumping the blood out of the arteries into the veins, an action in which the whole body may be made to participate by a general cold douche or other suitable application of cold water to the surface. Cold applications, general and local, may be safely affirmed to be the true physiological heart tonic.

It is evident, then, that in the use of alcohol in connection with the cold bath we are not enhancing its effects, but are simply lessening its influence. If it is desired to mitigate the tonic or excitant effect of cold water upon the heart or vessels, this may be accomplished by employing water at a higher temperature, or, if it is desired simply to get the patient over the preliminary shock of the application, we may accomplish this much more efficiently by a preliminary heating of the skin, as by a fomentation to the spine, a hot-blanket pack, a hot enema, or even hot water drinking.

What has been said with reference to alcohol in the treatment of fevers applies with even greater force, if possible, to the employment of this drug in chronic disorders. It damages the blood, lessening leucocytosis, and fixing the hemoglobin in the red cells, besides lessening its alkalinity and lowering its germicidal power.

Few physicians now prescribe this drug in tuberculosis of the lungs. A generation ago it was common to meet confirmed drunkards who had been made such by a doctor's prescription for pulmonary consumption, or suspected tubercular disease.

The observations and discoveries made at Davos, Switzerland, where the out-of-door and cold-air method of dealing with this malady has long been in use, as well as the experience of many acute observers in this country, has shown the superiority of this natural method over all the artificial means which have heretofore been employed to combat this great plague. In dozens of tent colonies the curability of tuberculosis pulmonis is to-day being demonstrated in a most convincing way.

What the out-of door life does for lung consumption it can do for almost any other chronic disease. It cures by raising the resistance of the organism. The whole body is improved. The blood is made cleaner, richer, more germicidal, myriads of germ hungry leucocytes swarm out into the tissues to combat the invading microbes, under the vitalizing influence of the sunlight, cool air, and good feeding. The addition of hydriatic measures and medical gymnastics completes the physiologic method for this malady, and enormously increases the chances for recovery.

What is true of the malady named is equally true of all other forms of chronic diseases. Most chronic maladies are penalties for our artificial life and perverted habits. We have departed too far from natural conditions. We are ignoring, in our eating, drinking and general conduct, great biologic laws which cannot be set aside. The only definite hope for the chronic invalid in most cases is to be found in a return to natural, and hence wholesome modes of life.

The establishment of natural conditions restores natural functions. The healing forces of the body are encouraged and aided in their contest in its defense.

The value of the physiologic method is abundantly attested by the thousands who benefit yearly by excursions to the seashore, hunting trips and other outings. The cool water of the ocean, the exercise incident to battling with the surf, the tramping in the woods and exposure to the air in camping out and roughing it—these are only rude, but efficient applications of the physiologic method, which is, in fact, nothing more than systematic, carefully-directed applications to the cure of disease, of those forces of nature which are essential to the maintenance of life, and need only to be intensified in their application to become powerful aids to recovery from disease.

Fraenkel has demonstrated that gymnastics, intelligently applied, may restore to the ataxic patient who has become nearly helpless the proper use of each muscular group. I have often seen these patients become able to walk so well after a few weeks' training that it was all but impossible to discover any peculiarity of gait.

Diet, hydrotherapy, exercise, light-baths, and suitable electrical applications may be relied upon to cure, or at least to make comfortable, almost every one of the vast army of men and women who are suffering from dyspepsia, constipation and other functional gastric disorders. Many of the gastric and intestinal affections which are nowadays being turned over to the surgeon yield readily to a systematic application of rational physiologic methods.

Insomnia, which is only aggravated by hypnotics, is always curable by means of proper hygiene combined with the neutral bath and other hydriatic and physiologic means.

In conversation with the superintendent of the Kankakee Insane Asylum a few years ago, the doctor informed me that the neutral bath and the neutral pack are much used in that institution as a means of relieving insomnia, and that it is found successful in cases in which drugs have failed. One case in particular was mentioned, that of a woman suffering from acute mania, which the doctor said was the worst case of the sort he had ever seen. The patient was so violent that six nurses were required to restrain her. Enormous doses of hypnotics had failed to produce quiet. Even large doses of opium had proved ineffective. At the suggestion of one of my colleagues, Dr. Thomason, who happened to be visiting the asylum, this patient was placed in a neutral bath at 92° to 94°, with the result that in fifteen minutes she was so quiet that no physical restraint was necessary, and shortly after the patient fell asleep and slept several hours. The neutral bath and neutral pack were afterwards found sufficient to secure normal sleep, and in three months the patient was restored to perfect health without the use of hypnotics or drugs of any sort.

Dr. Edwards, the superintendent of the Kalamazoo Insane Asylum, stated at a meeting of the Kalamazoo Academy of Medicine that since the introduction of the neutral bath, the wet sheet pack, and other hydriatic methods, hypnotics had been largely discarded, the number of doses of hypnotics used at the present time being scarcely 1 per cent. of the amount used for a corresponding number of patients twenty years ago.

Quite a number of insane asylums have within the last few years introduced hydriatic methods of treatment, and with equally good success, as a means of quieting disturbed patients and securing sleep.

Obesity, diabetes, gout and chronic rheumatism are well recognized as nutritive disorders, and certainly yield to dietetic and other means which control metabolism, except when structural changes and degenerations have gone too far to be repaired.

Cold air, cold water and light-baths are almost as efficient in curing internal tuberculosis as is the Finsen method in conquering the superficial manifestations of this disease in lupus. Tuberculosis is no longer to be regarded as an incurable malady except when neglected.

Neurasthenia, a symptom rather than a disease, is really curable only by the application, hygienically and therapeutically, of the principles of the physiologic method.

Abrams, of San Francisco, has recently called attention to a special form of neurasthenia which he describes as "splanchnic neurasthenia." The class of cases which Abrams includes under this head I have myself recognized for some fifteen or sixteen years, and have treated as cases of neurasthenia due to disturbance of the abdominal sympathetic. I am still in doubt as to whether it is strictly proper to consider disturbance of the splanchnic nerve as a primary condition. The seat of the morbid condition seems to me to be the sympathetic centres, but this is a matter of minor consequence. The thing of chiefest importance is the fact that a special class of neurasthenics exists, and that a condition common with them all is a congested state of the portal circulation, which results from a chronically weakened and atonic state of the abdominal muscles. The loss of infra-abdominal tension which necessarily accompanies weakening of the abdominal muscles removes the normal support of the extensive venous system known as the portal circulation, and the consequence is congestion of all the abdominal viscera. When it is remembered that the liver naturally contains one-fourth of all the blood in the body, and that the portal system is capable of holding the entire volume of blood in circulation, it can be readily seen how great disturbance of the circulation may result from lowering of the intra-abdominal tension—withdrawal of blood from the heart weakens this organ; withdrawal of blood from the brain lessens its activity, producing faintness and confusion, with sometimes giddiness and even unconsciousness. Besides these distinct symptoms, a hundred other obscure and disturbing symptoms from which neurasthenics suffer may be fairly attributed to the same cause. Drugs of various sorts give temporary relief, but for a radical cure it is necessary to restore the tone of the abdominal muscles. This may be accomplished by massage, special gymnastics and the application of the sinusoidal electrical current in such a way as to produce vigorous, sustained contraction of the abdominal muscles.

Cardiac disease, the various forms of Bright's disease, hepatic sclerosis, and many other maladies of degeneration, which are, of course, not curable in the proper sense of the term, are nevertheless amenable to the physiologic method to such a degree as to check the advance of the destructive process, and enable the patient to live a comfortable and useful life for many years.

It is not necessary to particularize, for practically all chronic invalids are suffering from one and the same disease, namely, lowered resistance, diminished vitality, lessened alkalinity of the blood and of germicidal power, slowed nutrition. The one thing that all need is an increase of vital energy, of resistance, of metabolic activity. Except in those cases in which the patient is already tottering into his grave, this can be accomplished by a sufficiently earnest, persevering, and well-directed effort. And the methods are not inaccessible or difficult of application. The most essential measures are always close at hand. Air, water, light—either sun or electric—are always at hand. Proper food and exercise are always attainable. It is only necessary to become acquainted with the simple principles which underlie the application of these powerful agencies in the treatment of disease.

The work of treating chronic invalids must not be left for a few large sanitariums. Every city needs a physiologic institute, an institution affording facilities for the application of all physiologic means, hydriatic, electrical, etc., together with a laboratory for the critical examination of secretions and excretions, microscopically, chemically and bacteriologically, and at the disposal of all physicians who may desire to make use of the same.

It is safe to say that of the one million who annually die in this country alone, at least half a million might be saved alive for many years by the application of the physiologic method if made readily accessible to all in the manner suggested. Brand has reduced the mortality of typhoid fever from twenty per thousand to three, a saving of seventeen, or 600 per cent. The mortality of pneumonia has been reduced by Mays and others in equal proportion. The same methods operate with equal success in other infectious diseases, and also in chronic disease. Probably a thorough application of the physiologic system would save at least 700,000 or 800,000 lives in this country annually, and in the world twenty times as many. What an enormous sacrifice to ignorance! But a better day is dawning. The era of physiologic medicine has come, and in the next ten years marvelous progress will be made in the dissemination of its principles.

DEATH THROUGH MISADVENTURE.*

BY W. W. VINNEDGE, M.D.,
LA FAYETTE, IND.

On the 11th day of February, 1904, about 5 P.M., R. W., two years old, a healthy, playful boy, lost his life from strychnia poisoning. The father, a tailor, was absent from home, and the wife and mother was ailing, and at the time was receiving the professional care of a physician. She states: "The doctor was called to our house that day and left nine little red tablets on the table near the bed on which I was lying at the time, directing me to take one every three hours." She took one tablet and left the remaining ones on the table in her bed-room. She was dressed for indoors, and did not remain in her bed-room all the time. Late in the day, on returning to her bed-room after a short absence, she missed her medicine, and immediately inquired of her little son as to what had become of it. In response he opened his mouth widely and with his finger pointed into it, and the red stain on his lips convinced her that he had swalloweed her tablets. The doctor was hastily recalled, and later another physician, and emetic powders were given every few minutes. During the first act of vomiting he was seized with a convulsion, and convulsions continued to return until a few minutes after 6 o'clock, when he died. The mother estimates that death took place about one hour after the tablets were swallowed. The doctor did not tell the mother what the tablets contained until after the chid's death. This is the substance of the mother's statement.

In his sworn statement before the coroner the first physician in attendance in substance says: "I was called to the home of Mr. W. on the morning of February 11, 1904, to render medical attendance to Mrs. W. On arrival at her home I found her quite weak, the result of previous illness, and I left on the stand by her bedside, within her reach, nine strychnia tablets, one-sixtieth of a grain each, telling her to take one portion three hours apart. As I passed into her bedroom, on entering the house, I noticed the children playing together in the front room. The family was composed of the father and mother and three children, two daughters and a son, the latter the youngest. Having prescribed, I hastened away to the bedside of a lying-in patient. Late in the afternoon, between four and five o'clock, according to memory, I was hurriedly called back to Mr. W.'s house and away from the beside of the lying-in patient. Since it was impossible for me to remain, I prescribed emetic powders, and explained why I could not remain, and asked the family to call another physician in case further attention was required. I did not tell the family that the tablets contained strychia until my second visit. I thought the remedy so bitter that a child would not molest, certainly not swallow them. Nevertheless, relying on the mother's statement that her son had done so, I left a few emetic powders, and returned to the bedside of my lying-in patient. The demands of this patient made it impossible for me to respond to a third urgent call to Mr. W.'s family. The father made the statement in my office, soon after the death of his son, that about ten minutes after my departure from his house in the evening, just after the second visit, emesis began and at the same time convulsions began which ended in death."

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11–13, 1904.

This case must appeal to the sympathy and kind consideration of every one. It does more—it opens the inquiry if the sale and dispensation of poisons and poisonous compounds by physicians and pharmacists should not be more severely regulated, if not limited a great deal more than now.

Naturally, in the presence of such a tragedy and bereavement, the grieved parents and their friends, as well as the distressed physician, took steps immediately to locate the cause and responsibility for the loss of life. The clinical evidence shows that the mother left the medicine on the table in her bed-room, exposed to view, where her children might or could easily obtain possession of it; and that the physician did not tell the mother what he had prescribed for her, or that in large doses it was injurious, dangerous to life. On these facts the loss of life in this case was plainly one of misadventure.

The evidence shows that nine red tablets of one-sixtieth of a grain of sulphate of strychnia were prescribed and dispensed, and that the mother took one of these before the doctor left the house, and that another one was lost, leaving seven within reach of the child.

According to the "approximate rules"[1] of dosage the physiological or safe portion of the agent to have been taken by the child was one-seventh of the dose for an adult, or one-seventh of one-sixtieth, or one four hundred and twentieth of a grain. From this it is plain that the child received a lethal dose of strychnia.

It has been asked in connection with this most unfortunate occurrence if there is any statutory guidance as to this or similar cases. So far as my information extends, there is none except a reference to the physician and his work in what is known as the "Pharmacy Law," entitled "An Act to Protect the People of Indiana," etc. This act is dated March 1, 1899, and is intended to regulate the public acts of the druggists and pharmacists as to selling or dispensing poisons. Section 8 of this act contains this proviso: "That nothing of this act shall apply to, nor in any manner interfere with, the business of a regularly licensed physician in compounding for and supplying his patients with such medicines as may seem to him proper in his professional capacity as a physician." If this is all the legislation there is on the subject by the State, and it appears to be so, the only restraint and guide the physician has upon his conduct as to the sale of poisonous compounds is the old rule, namely, "that reasonable care and diligence," etc.—the same rule he is required to observe in other professional relations, especially as to surgery.

A further inquiry is raised by this case. Does it suggest any additional legislation affecting the dispensing of poisons? This is an important question, and is certainly entitled to consideration, but it cannot be more than mentioned until a competent and complete review of existing laws is had. It is obvious that efforts to limit or regulate the use of poisons or poisonous compounds must be tempered with moderation; the legitimate use of agents of this class is so widespread in medicine as well as in commerce that too much restraint would probably defeat rather than promote wholesome restraint.

Over and apart from the legal standard of responsibility, it is better if unfortunate experiences, like the one in mind, could be wholly avoided by physicians—at any rate as far as possible. In these latter days of changing professional conditions and of the tablet, the practitioner must doubly safeguard his reputation and his patients, especially children, from injury. In prescribing and dispensing remedial agents having the power in sufficient doses to produce lethal effects, it is better to leave a written statement to that effect with the remedy. The physician in this instance is an exemplary citizen and a qualified physician, and but for the unexpected prank of the child this most unpleasant experience and notoriety would have been avoided. There is no doubt that the rule of custom in medical practice was adhered to by him, but this was one of the times when the rule was insufficient; it did not protect.

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[1] Hare, "Practical Therapeutics," p. 24.

Finally, these notes have been read by both mother and physician in the case, and both approve them as to facts, and consent to their publication in order to help prevent as far as possible similar tragedies.

URETHRORRHEA.*

BY EARL HARLAN, M.D.,
CINCINNATI.

The above term is probably a misnomer, but I know of no other word which will define as clearly the group of symptoms which I am going to describe. Therefore for the lack of better, I shall at present make use of the above.

The specific application of the word urethrorrhea, in this instance, is to a condition of the urethra which follows one or more attacks of cured gonorrhea, and is characterized by the following symptoms: Hypersensitiveness of the urethra. Irritability — more or less periodical — the passage of the urine imparting not exactly a burning sensation, but producing a styptic, cutting, irritating feeling of discomfort and distress, more or less marked at times and dependent to a considerable degree upon the intensity of the acidity and concentration of the urine; amount passed, and to the degree of congestion present in the urethral tract. This latter condition of irritability of the urethra alternates with one in which there is present polyuria with free and frequent urination, the urine being copious and limpid and having a free, easy delivery, no irritation being produced by its passage. During this condition there is practical relief from troublesome symptoms for the time. There may or may not be a discharge, and when the latter is present it is usually a clear (it may be slightly turbid) thin, sticky substance without odor and of a mucilaginous consistency. It may slightly discolor the linen. The discharge is usually very small, however, and is generally noticeable only in the mornings upon rising, the excess of the accumulations of the night's secretions presenting at the meatus in the form of a drop of mucus containing clouded shreds, the latter also being at times present in the urine. The discharge is also stringy in consistence. Care is necessary not to confound this state of affairs with gonorrheal catarrh or gleet, and especially an attenuated form of the latter; use of the urethroscope will eliminate this doubt by disclosing, in cases of gleet, the congested spot or incipient stricture, which are the usual causes of gleet. The microscope reveals (found in most cases) cocci, an attenuated diplococcus (not the gonococcus) with an excess of cellular débris, and a substance resembling mucus; the discharge characteristic of this disease, the latter never being discolored, but may or may not soil the linen, this being produced by chemical changes, and it may contain cloudy shreds.

The bladder and prostate may or may not be involved, but usually are. In the latter case there is the persistent symptom of mild ardor urinæ, frequent urination; the patient being forced to urinate often during the day-time and from three to five times during the night. A sense of discomfort and uneasiness is felt in the prostatic region if the latter be involved, present at times but not a constant symptom. The prostate is not enlarged, but usually congested and hypersensitive. This organ, however, may not be involved at all. Although ordinarily no pain is felt in the prostate, it is tender to the touch and palpation through the rectum produces intense pain.

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* Read before the Cincinnati Chapter, Ohio Medical College Alumnus, April 26, 1905.

The condition of the sphincter vesicæ is one of hypercontraction, same resistance being manifested upon passage of the sounds, the passing of the latter eliciting irritability and tenderness throughout the urethral tract, or, at times, its passage producing a relief from the itching, contracted sensation present. This condition is more or less marked, in prostatic involvement, in the prostatic urethra and at the sphincter. An itching sensation is present along the urethra at certain parts; at times, throughout the tract. This itching signifies slight congestion and is relieved by passing of the sounds and flushing the urethra, or if left alone finds relief in a sudden overflow of discharge, this being followed by the state of irritability, hypersensitiveness, prostatic and urethral uneasiness and nervousness, styptic or cutting urination, etc.

This trouble must not be confounded with beginning prostatic hypertrophy, which symptoms are in many cases almost identical with the above, and indeed this condition neglected invariably leads to its involvement, if the latter be not included in the attack in the incipiency of the disease.

The disease described above is due to a chronic passive congestion of the urethra, which is a sequela of gonorrhea, and usually develops in those cases where more than one attack of the disease is sustained. Long continued treatment of an irritating character is sometimes an important factor in the development of this disease. There is a hypertrophy of the mucous membrane, cells and follicles lining the urethra, due to dilatation and consequent weakening of the vessel walls by long-continued engorgement of the blood vessels supplying the urethral lining. This, of course, resulting in excessive, therefore pathological, action of the secretory cells. This, coupled with the fact, that there are cocci and cellular débris in the watery discharge, makes the disease a distinct pathological process, therefore a disease separate from gonorrhea, gonorrheal catarrh, gleet or affections of the prostate and bladder, although the latter organs may or may not be involved in this trouble.

This array of symptoms constitutes a condition, viz., a state of congestion of the urethra, one that is extremely difficult of curing, one which is prone to chronicity, with involvement of the prostate and bladder, and one in which the symptoms are apt to recur at the slightest exciting cause, namely, ingestion of alcohol, excessive venery, pathological processes in the kidneys and bladder which produce corresponding changes in the composition of the urine.

I have noticed this trouble most frequently in married men who had suffered from usually more than one attack of gonorrhea, but who always presented so far as known diagnostic methods could elicit, complete cure of the primary disease.

This disease, in my opinion, constitutes the "filth" from which the true gonococcus originally springs. This statement I am unable to prove, however, as I have heretofore neglected to examine microscopically the violent cases of endometritis which I have treated in the wives of some husbands thus affected. I do not mean to assert that it is the common result that all women exposed to this trouble are inoculated at once. Such is not the case, it being the exception and not the rule, meaning that at certain times, under certain conditions, inoculation takes place. I shall prove or disprove the above theory by further investigation.

The treatment of this disease consists of hot urethral and vesical flushings of mild antiseptic and astringent solutions, efforts being directed mainly to relieving the urethral congestion by toning up the circulation of the canal, as much or more benefit being derived from the heat itself than from the medicament. Hot solutions of permanganate, one grain to the pint, boracic acid, two drams to the pint, or weak solutions of zinc sulphate or colorless hydrastis. These taken daily, together with occasional passage of the sounds, will usually effect a cure in seven to fourteen days. Relapses are frequent, in which case urinary antiseptics may be administered and the treatment persisted in until complete cessation of the symptoms takes place.

ECHINACEA is said to be an admirable remedy in burns.

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

Meeting of March 27, 1905.

THE PRESIDENT, MAGNUS A. TATE, M.D., IN THE CHAIR.

STEPHEN E. CONE, M.D., SECRETARY.

Tooth-plate in the Esophagus.

DR. JOHN A. THOMPSON: January 2, 1903, Dr. G. W. Davis, of Lockland, brought to my office a patient with the following history:

The patient, Mr. B., aged twenty-three, had an artificial tooth on a rubber plate. The tooth kept its place so securely that he had formed the habit of sleeping with it in position. January 1 he contracted a cold and was awakened by a coughing fit on the morning of January 2. In this coughing spell, before he was thoroughly aroused, the tooth-plate slipped from its position and entered the esophagus. He was unable to swallow anything except a small quantity of liquid, and there was a painful swelling in the left side of the neck just above the clavicle.

By examination with a small esophageal bougie a hard substance could be felt at this point. The larynx was clear. After applying cocaine to the lower pharynx I passed the ordinary esophageal tube forceps and had no difficulty in grasping the foreign body. Gentle traction was made with the hope of loosening it from its point of lodgment. The hold on the foreign body was suddenly lost and the withdrawn forceps showed that one blade had broken off. The irritation from the traction produced a spasmodic attempt at swallowing, and the projecting painful point in the left side of the neck disappeared. An examination was at once made with the esophageal bougie and it passed into the stomach without encountering any obstruction. The plate and tooth had been swallowed, together with the broken blade of the forceps.

There being no prospect of obtaining a hold on the foreign body in the stomach, the patient was directed to return home and await developments. He suffered no inconvenience from the presence of the plate, and it finally passed twenty-five days after it had been swallowed. During all this time there were no symptoms of intestinal obstruction or colicky pains such as would be produced by the lodgment of a foreign body in any portion of the intestinal tract. The plate measures one and three-sixteenths inches in width and one and five-eighths inches in length. The case is a good illustration of what nature can do in the removal of foreign bodies after they reach the stomach, and an argument against intervention unless symptoms of obstruction are observed.

Two Cases of Appendicitis.

DR. WALTER GRIESS: The case which is presented was operated upon for appendicitis last October, and is shown on account of complicating conditions found at the time of operating.

The patient, Roy MacD., aged thirteen, had had two previous attacks of appendicitis, the first July 14, 1904, and the second in August, 1904. Previous to this he frequently suffered with diarrhea. The case was seen for the first time three weeks after the last attack; examination at the time showed heart, lungs and temperature and urine normal. Physical examination showed small mass in right iliac fossa and tenderness. The boy was up and about, but walked with a decided limp, nor could he stand erect, the supposition, of course, being that adhesion to the psoas muscle caused this condition. He presented the usual appearance of one convalescing from a case of appendicitis. Family history negative.

He was operated upon at the Presbyterian Hospital October 6, and upon opening the abdomen the adhesions were found to be very extensive and a localized tubercular peritonitis presented itself. The appendix was found with the greatest difficulty, and was just about in the middle of the tubercular process. Perhaps a hundred or more yellow tubercles were scattered over the peritoneum, covering the head of the cecum, the mesocolon, the ileum and the posterior portion of the pelvis. The tubercles varied in size from one-eighth to one-half an inch in diameter, the largest ones being in the centre of the area. The appendix was removed and is here shown. The tubercles, which were ulcerated, were touched up with 95 per cent. carbolic acid, then alcohol, the involved peritoneum sprinkled with iodoform, the wound closed except at one small place where gauze drainage was employed for forty-eight hours; this part was then stitched and the case made an uninterrupted recovery. He was sent to the country and Fowler's solution given. I believe this tubercular peritonitis is an unusual complicating condition, if not perhaps the primay factor in the production of the inflammation in the appendix.

The next case I wish to report is another case of appendicitis in a young man of twenty-six, operated upon at the Presbyterian Hospital, December 3, 1905, during the interval after the third attack. During the first attack he had a localized abscess, which ruptured through the bowel. However, two subsequent attacks followed. The appendix was removed after the third attack and is here presented, and shows point of rupture. It was adherent to the cecum and a fistulous communication existed between it and the cecum. After removing the appendix the opening in the cecum was stitched. Patient made an uninterrupted recovery. This certainly demonstrates how, after an apparent cure, by rupture of the abscess, the appendix still was a source of trouble.

Ovarian Cyst.

Dr. Magnus A. Tate: Mrs. H., aged eighteen, married, was referred to me for operation. She had a very large ovarian cyst. Menstruated at the age of thirteen, and at the age of fourteen noticed a swelling in the left ovarian region, which gradually increased in size. No interference with the menstrual period has ever occurred; it lasts from three to four days, is always regular and free from pain. Bowels regular, appetite good, sleeps well, and her only suffering is from the presence of this enormous weight in her abdomen, making walking very difficult and cumbersome.

Operation April 5. 1905, at St. Elizabeth Hospital. Dr. Ralph Tate assisted and Dr. Schultz gave the anesthetic; present, Drs. Murnan and Sweny. The large sac contained twenty quarts of water, and it was extensively adherent to the abdominal parietes and to the descending colon. There was some difficulty in controlling the oozing from the abdominal surface to which the sac had been attached. The right ovary was cystic to the size of a small lemon, but a resection was made of the diseased portion, which I trust will give the remaining part of the ovary a chance to become an active organ. The day following operation temperature 100.4°, pulse 108. The third day temperture 99°, pulse 88, since which time pulse and temperature normal.

The interesting features in this case are:

1. The age of patient, she being only eighteen years old.
2. The adhesions to the abdominal parietes.
3. The large size of tumor, it containing twenty quarts, and this fluid, with the tumor itself, weighs about forty-five pounds.
4. The saving of a portion of ovary, which, had the operation been made a few years ago, would have been sacrificed.
5. The easy course which has followed the removal of tumor.

Patient Operated Upon for Extensive Epithelial Neoplasm of the Right Orbit.

Dr. Robert Sattler: This man has made a fortunate recovery from one of the most extensive and vicious expressions of an epithelial neoplasm of the eyelids, globe and orbit. The neoplasm involved the deeper structures of the orbit on its inner side, leaving a large hole, besides destroying more than three-fourths of the lower lid and one-half of the upper lid, exposing and infiltrating the tissues of the globe. In spite of repeated plastic and curettage operations, the use of caustics and also a faithful trial consisting of sixteen prolonged X-ray treatments, the disease, which had been in progress for nine years, persisted, and the only prospect was a thorough exenteration of the orbit. This we were loth to do, and we made instead some eight months ago a final operation, removing, as nearly as is possible, the neoplasm, with plastic and skin grafts. This resulted in the satisfactory result before you. The case is presented mainly to encourage those who have similar cases of epithelial carcinoma of the lids and orbit under observation, as we know the latter to be a veritable stronghold for this lesion, to treat what sometimes, even in the most vicious expression, may finally result in recovery.

Specimens of Tubercular Kidneys.

Dr. B. Merrell Ricketts: I herewith present three kidneys removed for tubercular disease, with one death and two removed at autopsy, one showing pyonephrosis and one a double ureter of right kidney, the left kidney and ureter being normal. Two of these specimens have been presented before to this society, but I again present them as each is of special interest.

1. Specimen of tubercular right kidney, female; nephrectomy, recovery. This specimen was presented to this society last November.

2. Male, white, aged twenty-eight years. Complained for eighteen months with more or less distress about the left kidney. First noticed pus in the urine during spring of 1904. This gradually increased in amount until March 3, 1905, when I made a diagnosis of tuberculosis of the left kidney. A posterior nephrectomy was made on this day and the diagnosis verified, as shown by specimen herewith presented. Dr. J. H. Andrews, the attending physician, reports that an uninterrupted recovery has ensued.

3. Female, white, aged twenty-eight years, married, one child. Complained for five years with pain about right kidney. She became emaciated and much distressed. She first noticed pus in the urine about February 1, 1905; at the time of operation, March 6, 1905, the urine resembled cream in consistency and color. Diagnosis, tuberculosis of right kidney.

Posterior nephrectomy was made on March 6, 1905, resulting in death from ileus on March 11. Bowels moved and urine passed voluntarily until the third day. Her temperature never exceeded 99° after operation. It was, however, 101° in the morning of day of operation. The kidney herewith presented shows great tubercular destruction.

Double Ureter.

This specimen is a double ureter, right kidney, and was taken by my student, Mr. Silver, in the dissecting-room. The ureters are independent of each other, of the same size, and unite in the wall of the bladder to form an opening into the cavity of the bladder.

Pyonephrosis of Kidneys.

This specimen shows pyonephrosis of both kidneys resulting from cystitis due to prostatic hypertrophy; prostatectomy; vesico-rectal anastomosis; death twenty-two months later; autopsy; specimens shown to this society during June, 1904.

DISCUSSION.

Dr. Rufus B. Hall: This is certainly a very interesting group of specimens, but I rise to discuss only one of the specimens presented, and that is the last one. The reporter says that he determined the condition of the opposite kidney by passing his hand around to the opposite organ and in this way examined it. And yet the patient from whom he removed this tubercular kidney died in four days after the operation. In this case there was no autopsy, so that we do not know the condition of the opposite kidney, and what influence it had on the fatal termination which followed the operation. However, I believe it is the surgeon's duty to determine the condition of the opposite kidney from the one which you know is diseased before such a grave operation is made. That can be determined by various methods, and pretty accurately, too. Catheterization of the ureters is always available, and it gives us mathematically correct information. The separation of the urine in the bladder by the Harris method is also approximately accurate.

I had a patient referred to me a few weeks ago. She had a tubercular kidney and a large amount of pus had been present in her urine for several years. She also suffered with attacks of pain, and was past fifty years of age. This tubercular kidney was enlarged to twice or three times its natural size, and was somewhat prolapsed. She was a small thin woman and the kidney could be taken up between the hands to palpate it. She had all the signs of a tubercular kidney. She was passing from nineteen to twenty-four ounces of urine in twenty four hours. She remained in the hospital for several days, living and eating as she ordinarily did (we did not put her on a fluid diet), so that we might see if the urine varied in character. We found the quantity to remain about the same. On allowing the urine to stand in a bottle we would find at times one-fourth of the amount would be pus. The question in this case, then, was what was the supposedly well kidney doing? We catheterized both ureters, leaving the catheters for seven hours, and from the supposedly healthy kidney we obtained less than two drachms of urine. Practically all of the urine was coming from the tubercular kidney, which was throwing off so much pus. I advised against operation. If I had gone ahead and removed this tubercular kidney what would have been the result? It would only have shortened the few remaining days this poor creature had. I believe in all cases where it can be definitely settled we should determine the condition of the opposite kidney from the one which we know to be diseased.

Dr. Ricketts: In reply to the remarks of Dr. Hall, I wish to say if there is anything which is uncertain it is making a diagnosis from the use of the urethroscope or the ureteral catheter. We all know the anomalies which may occur as regards the ureters. We may have two or three running from the same kidney, they may cross over from one side to the other, or they may fuse, etc., so this method is not at all accurate, and cannot be depended upon in making a diagnosis. So far as these cases are concerned, they all cleared up, so I have no reason to believe the opposite kidney was diseased.

Specimen of Fibroma of the Rectum.

DR. J. AMBROSE JOHNSTON: This specimen was removed from a woman seventy years of age. The growth protruded from the anus and caused her considerable trouble on defecation. It sprang from above the internal sphincter. It was a very easy thing to run the finger above it and pull it out. These growths generally spring from the connective tissue beneath the mucous membrane, and may grow to a considerable size, as large as a fetal head. They may take on the form of polypi or remain in the rectal wall. This tumor seems to have sprung from a hemorrhoid. You will notice that there are no blood-vessels present in this tumor. It is a typical fibroid of the rectum. It was taken off easily by means of the electro thermic angiotribe. In operations of this kind I shall not use this instrument, as it is liable to burn the skin about the anus, as it did in this case, although the shield was used and gauze was well packed about it.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, MAY 6, 1905.

A LITERAL LITERARY WINDFALL.

Unexpected and unheralded there came to the Cincinnati Academy of Medicine last week a gift that was as princely in quality and magnitude as it is invaluable.

In his youthful callow days Dr. M. Cassat began an accumulation of books, for which purpose he haunted the second-hand stores, where he was able to gather in a great store of valuable tomes. In a long experience and years of observation he came to know the valuable from the worthless, and made his selections accordingly. These were largely in the domain of medicine and kindred sciences. Almost, if not entirely, unknown to his friends, in this way Dr. Cassat built up a monumental library. As an unknown individual he became a great student in medicine and the collateral sciences. He bought books, read and studied them.

Month after month for years the writer enjoyed the freedom of his office, and saw much of him and his work. The latter he enjoyed as very few men do. I think he never read a paper before the Academy, although well qualified. Dr. Massilon Cassat is an extremely modest man, and I am running a risk in directing the attention of the Academy to his books. He timidly shrinks from notoriety and publicity.

It will be a surprise to some to know that Dr. Cassat is an excellent pathologist, superior chemist, and is a familiar manipulator of the microscope, and, by the way, in his retained library of more than four thousand bound volumes may be found a working library of microscopical books which for practical usefulness is among the very best that can be found.

As already mentioned, Dr. Cassat is a student, although if he were charged with being addicted to such habits he would indignantly utter a disclaimer, but all the same he belongs in that class. Who can say to the contrary of a man who intelligently gathers a library of more than seven thousand bound volumes and makes himself more or less familiar with every one of the seven thousand books? These books were purchased during a more than forty years' period of general practice, and out of scanty savings. Dr. Cassat thoroughly appreciated his books, and may be said to have literally lived in their presence, inhaled and absorbed their contents.

Why such a laudation of a timid, obscure man who is in good health and likely to live far beyond the alloted time of life? A reason: Dr. Cassat gave of his surplus and had the courage to part with that which was very dear to him for the benefit of others of his guild. It was an unselfish act. No business could possibly come to him because of the donation. Dr. Cassat never had much of a consultation practice, and at his time of life is not likely to add to this feature of his business. In this act the motives of a generous-hearted man are disclosed.

The world and the people in it rarely discover the Dr. Cassats who are every day going in and out before them. One reason for this is because they are so like ourselves, and yet somehow they are a little bit different. Dr. Cassat (with all due deference) has always been regarded as a little bit queer, and now it is cropping out. Queer, close but generous, honest and honorable. If Dr. Cassat had not been a member of the queer people guild the Cincinnati Academy of Medicine would not be his beneficiary.

Charley Judkins was another queer fellow, but big hearted and generous. He, too, was one who loved his fellows in the medical profession.

There are those who are on the borderland and in a little danger of being numbered with those who are just a little bit queer. Then there are others who are in no danger whatever. In this the most astute diagnosticians are nearly always at fault, and, in language of the street, "Can't most always tell."

The world is always better for having some queer people in it, and as it is the fittest who survive, long may they live and their tribe never wane or grow less!

C.

ALTITUDE IN PULMONARY TUBERCULOSIS.

One of the perplexing problems that confronts the conscientious physician in treating an individual afflicted with pulmonary tuberculosis is to determine to what climate to send him, or, indeed, whether to order him from his home at all. There are many prominent specialists on diseases of the lungs who hesitate very seriously about subjecting the consumptive to the discomforts of a life remote from home and friends, even when the climate to which the patient is being sent is all that could be desired. Many also believe that we have assigned too much honor to the effects of climatic treatment, and think that just as much good can be accomplished at home by means of a carefully regulated out-door existence, even in those climates where there is considerable moisture. As a rule, however, other things being equal, a climate dry, equable, and with a maximum amount of sunlight, is that most to be desired. Many physicians, unfortunately, confound these latter conditions with high altitude, and marvel that some of their cases when sent to recuperate upon mountain tops not only fail to improve, but seem to lose ground rapidly.

Carrington[1], in a critical review of this subject, believes that consumptives should not be sent indiscriminately to high altitudes, and that the indication for high altitude is in direct relation to the vital capacity of the lungs, which in turn can be approximately arrived at by a careful consideration of the amount of thoracic expansion. At Fort Stanton, the army sanatorium, situated over six thousand feet above sea level, where Carrington has made his principal observations, it has been observed that immediately following the arrival of the consumptive there is in many cases, those that do well, a marked increase in the amount of the hemoglobin of the blood. This is believed to be due to Nature's constant attempts at compromise, to counteract the thinness of the inspired air by providing for a greater area for oxygen absorption. This can be accomplished in one or both of two ways —by an increase in the amount of hemoglobin and by an increase in the amount of lung tissue, or, in other words, by an increase in the vital capacity—that is to say, thoracic expansion. In treating of this subject, Carrington has this to say:

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[1] Journal Association of Military Surgeons, February, 1905.

> "It stands to reason that Case I, with two inches of expansion representing one hundred and twenty cubic inches of vital capacity, and barely able, at sea level, to appropriate sufficient oxygen to maintain an ordinary metabolism, should not do as well at an altitude of over six thousand feet as Case II, with an expansion of four inches, representing a vital capacity of three hundred and forty cubic inches, and consequent appropriation of twice the volume of oxygen. The blood of Case I being insufficiently oxygenated, fails to perform its functions completely and the patient suffers from dyspnea, and perhaps from cyanosis, with increased cough and expectoration and extension of tuberculous areas, nature striving without avail to increase the hemoglobin with sufficient rapidity to supply the essential oxygen. And, on the other hand, Case II, with a moderate increase of hemoglobin, is amply supplied with oxygen, all the symptoms abate, and at the first examination, three months after admission, there is usually found a marked diminution of lung tissue involved. In the two cases it is supposed that the lung tissue compromised is the same."

Since, then, in some cases neither the hemoglobin nor the vital capacity can be increased in the new high altitude, the lesson that Carrington wishes to teach is to increase one or both at home, and naturally of the two, the latter, by means of thoracic calisthenics, is the easier of accomplishment. Consumptives with small thoracic expansion should be subject to preliminary home treatment to increase this expansion before sending them to high altitudes, or if the time for this treatment cannot for obvious reasons be allowed, the patient should be sent to the same general region, combining dryness and sunshine, but at a low altitude, rather than to subject him to the enervating effects of an altitude thousands of feet above sea level.

MOVEMENT AGAINST TUBERCULOSIS.

Cincinnati intends an even more vigorous campaign against consumption than heretofore, as shown by the outlined plans of the subcommittee of the Antituberculosis Committee of the Associated Charities, which held a meeting at the latter's headquarters several days ago. This committee, consisting of J. M. Hubbard, Drs. J. M. Withrow, Byron Stanton and B. F. Lyle, have determined upon a line of treatment that has met with success in other sections of the country where it has been thoroughly carried out. Recognizing the fact that consumption is a communicable and therefore a more or less preventable disease, a compaign of education will be instituted, instructing the people as to the dangers of scattering broadcast the specific bacilli by means of the sputum, and, indeed, of all discharges. The law against promiscuous expectoration to the furtherance of this end will be vigorously enforced. Believing as many now do that remedies directed to the lungs—indeed, medication of any kind save tonic and symptomatic—do more harm than good in tuberculosis, efforts of the committee will be directed to the securing of a proper environment for the tuberculous, a regulation of exercise, proper food, plenty of sunlight, good food, adequate clothing—in a word, it will direct its attention to those means of improving the general nutrition that experience shows has alone been efficient in stopping the ravages of this plague. It is also intended, if funds will permit, to establish clinics which will specialize in this disease, and also to send nurses to the homes of the poor when necessary. To accomplish the ends of the committee will necessitate a large fund, but it will be money well spent, as it is only by some such plan as this that the mortality of consumption can be lessened.

EDITORIAL NOTES.

At the meeting of the Ohio State Pediatric Society, held in Columbus, May 9, the day before the opening of the Ohio State Society, there will be delivered an address of particular interest by A. C. Cotton, of Chicago. This essay, entitled "The Call of Pediatrics," will be delivered at 7:15 P.M., and it would pay all anticipating attending the Ohio State Society to make their arrangements to arrive in time to hear this address.

The sixth annual meeting of the American Roentgen Ray Society will be held at Johns Hopkins University, Baltimore, September 28, 29 and 30. Arrangements have been made for an excellent programme and a large attendance is expected. The papers of the meeting for the first day will deal with X-ray diagnosis and those of the second day will be therapeutic. There will also be an evening exhibit of lantern-slides, which promises to be extremely interesting. The Belvedere Hotel has been selected as headquarters.

Dr. H. C. Sharpe, Councilor of the Third Councilor District, called a meeting of the physicians of the district at New Albany, Ind., April 20. There were several physicians in attendance and much interest displayed. Some valuable papers were read and discussed. Dr. W. N. Wishard, of Indianapolis, read a paper at the morning session, and Dr. Claude T. Hendershot, of Cannelton, Vice-President State Medical Association, delivered an address in the afternoon on "The Ups and Downs of the Profession." Next meeting will be held in Jeffersonville, October 19, 1905.

Report of the Bureau of Infectious and Contagious Diseases for the week ending April 28, 1905:

Disease.	Cases.	Deaths.
Diphtheria	5	1
Scarlet Fever	21	4
Typhoid Fever	9	3
Phthisis Pulmonalis	12	10
Cerebro-spinal Meningitis	4	2

X. W. Wittman went into the county seat of Warren County the other day and began to do the patent-medicine fake business. He would announce from his block that he had studied medicine, but was not a physician; but he made professional calls and prescribed his remedies; he received calls at his hotel and prescribed, and finally he announced in the public press that he, "Dr." Wittman, had done so and so. Some of the officers and members of the county medical society, and of the local Doctors' Club, had him arrested for violating the statutes of the State of Ohio. He claimed that he was persecuted and that he was entirely innocent, but rather than have the case interfere with certain business plans he would plead guilty and leave town. He was fined the minimum amount fixed by law, twenty dollars, and the costs in the case. The rabble, and many who should not be classed as rabble, but who were caught by the arguments of a very smoothe talker, were found among the sympathizers of this victim of legislation for the doctors. Much of this sort of thing has been permitted to go on for a long time without a protesting voice, or even notice being given those who practice the business. It is one of the arguments for professional organization.

At the Academy of Medicine, Monday evening, May 8, Dr. G. A. Fackler will read a paper on "Cerebro-Spinal Meningitis."

The Lancet-Clinic

A Weekly Journal of Medicine and Surgery.

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NEW SERIES VOL. LIV. MAY 13, 1905. WHOLE VOLUME LXXXXIII.

PTOSIS OF ABDOMINAL VISCERA.*

BY FRANK L. RATTERMANN, M.D.,
CINCINNATI,
Professor of Diseases of Stomach and Intestines at the Cincinnati Polyclinic and Post-Graduate School.

Gastroptosis and enteroptosis have assumed the position of distinct affections in gastric and intestinal disturbances, since the profession has begun to recognize a group of general though by no means definite symptoms in mal-location of abdominal organs. Heretofore the general epigastric symptoms after eating, of fullness and weight, belching of gases or foods, nausea or vomiting, sensitiveness or pain, were classified under the head of dyspepsia, and as such were treated; but now we know from experience that hardly a prominent symptom of any of the different diseases of the gastro-intestinal system exists that cannot be simulated by either gastroptosis or enteroptosis, or both.

For a general understanding of the action of the causative factors in gastroptosis or enteroptosis, allow me to deviate at this point from the subject, and recall to your minds the anatomy of the organs concerned, and the ligaments supporting them in their positions.

The stomach is a hollow viscera, situated in the left hypochondriac region, behind the anterior wall of the abdomen, below and behind the liver and diaphragm, and above the transverse colon. It is curved upon itself, and forms an irregular conical figure, with the large fundus toward the rear and left side of the abdomen, and the pylorus toward the right and anterior below the liver, and back of the anterior abdominal wall. Its size varies in different persons, according to age, sex, and state of distension. In the adult, when moderately filled, it is about twelve inches in its horizontal, and approximately four inches in its vertical diameters, and when empty the pylorus lies about two inches below the gladiolus portion of the sternum and slightly to the right of the linea alba; but when fully distended moves considerably to the right and below this point, near to the end of the cartilage of the eighth rib. The lowest portion of the superior curvature is about two or three inches below the umbilicus. The ascending colon begins in the right inguinal region, travels upward through the right lumbar space, and enters the lower edge of the right hypochondrium, where it turns as the transverse colon to the left, touches the lower board of the left hypochondrium, and bends downward as the descending colon. The ascending, as well as the descending, colon in the adult is but a hand's breadth from the mid-line of the abdomen, while the transverse colon lies slightly above the umbilical line.

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* Read before the Academy of Medicine of Cincinnati, December 6, 1904.

The ligaments supporting the stomach and intestines not only assist in holding the abdominal organs in their relative positions to each other, but likewise a certain distance from the lower surface of the diaphragm. The peritoneum, for description sake, can be divided into two parts, the peritoneum of the lesser and the peritoneum of the greater cavity. The peritoneum of the greater cavity spreads backward from the junction of the diaphragm with the anterior abdominal wall and meets the peritoneum of the lesser cavity, coming from behind forward. On coalescing they descend on the liver, forming the two lateral coronary and bread ligaments, which support the liver in its position. The peritoneum of the greater cavity at this junction separates from the lesser and passes forward, completely incasing the upper and lower anterior surface of the liver, while the latter passes backward over the upper and lower posterior portions of this same organ. On meeting at the point of entrance into the liver of the hepatic artery and duct, portal vein and the various hepatic nerves, they surround these vessels and nerves and pass over them onto the stomach, forming the so-called gastro-hepatic ligament, or the lesser omentum. On reaching the stomach the peritoneal leaves again separate, and while the peritoneum of the greater cavity passes forward, surrounding the anterior part of the stomach, the peritoneum of the lesser cavity passes backward, completely incasing the posterior surface. On meeting they fold together and drop over the anterior portion of the small intestines like an apron. forming the so-called greater omentum. On reaching the pelvic cavity the greater omentum turns upon itself and ascends to the height of the transverse colon, lying to the rear and below the stomach. Here the folds separate to enclose the transverse colon, after which they again coalesce. A final separation of the periteneal leaves occur at this point, and while the peritoneum of the lesser cavity passes upward over the pancreas and crura of the diaphragm to the point where the description of this portion begun, the peritoneum of the greater cavity travels downward in front of the descending and transverse portions of the duodenum, aorta, and inferior vena cava, completely investing the jejunum and ileum with peritoneum and holding them securely by a long mesentery to the vertebral column. The ascending and descending colon is covered over on its anterior and lateral sides by peritoneum, while its posterior surface is usually free. A loose areolar tissue helps hold the posterior surface of ascending and descending colon to the abdominal wall.

It should be remembered that the hepatic flexure is not as well supported in its position as the splenic, for the latter is anchored in its position by the strong costo-colic ligament, a fold of peritoneum which passes upward to the under surface of the diaphragm, where it is attached to the tenth and eleventh ribs. This anatomical fact is of practical importance in understanding why the splenic flexure in cases of complete splanchnoptosis remains practically in its normal position, while the hepatic flexure descends low in the abdominal cavity. The rest of the abdominal organs become invested with peritoneum from the greater cavity, but as a description of this part of the anatomy would not enhance our knowledge of the subject I will turn to the narration of some of the specific causes in the production of splanchnoptosis.

It is a known fact that an inherited, as well as an acquired, tendency can exist toward the dislocation of the abdominal organs. From the earliest years of childhood a general splanchnoptosis has been observed. True, they have not always produced symptoms, and will not, as a rule, unless some complication, as constipation, improper food, great mental shocks or overwork, etc., excites vascular disturbances and produces them. Several years ago, I saw a child, about six years of age, very slender built, nervous and anemic, suffering from fever. The child complained of headache, was indifferent about her surroundings, and desired, as her mother said, to be left alone. As a matter of routine I examined her heart, lungs, and palpated her abdomen, when, to my surprise, I noticed the greater curvature of the stomach a good finger's breadth below the umbilicus, the edge of the liver below the border of the ribs, while the spleen and both kidneys were easily palpated. On recognizing the displaced abdominal organs I inquired more closely into the history of the case, and received as answer from her mother that never, to her knowledge, had her daughter complained except of ordinary abdominal cramps, and then only occasionally, and usually after indiscretions in diet. It does seem, therefore, proper to divide the etiological factors of gastroptosis into first causes produced by a general constitutional anomaly; and second, causes existing either within, upon or around the stomach.

In the consideration of the first group of causes tending toward gastroptosis, as well as general splanchnoptosis, one must consider the general physical development of these patients; their nervous and marked anemic appearance, and the long slender shapes of their chest. The ribs stand out prominently, and the angle formed by the ribs below the gladiolus portion of the sternum is usually sharp instead of blunt. The general impression is of a tubercular taint. On closer inspection of the ribs one usually finds Stiller's symptom of a floating tenth rib present.

Tandler, in the *Wiener klinische Wochenschrift* of 1900, Book No. 8, as well as Meinert in the *Wiener medicinische Wochenschrift*, Book No. 2, of the same year, states that in the vast majority of examinations on normal individuals the floating tenth rib is present, but, owing to the better development of fat and muscular tissue in the healthy, escapes observation. The truth of this assertion is contested, and rightfully, I believe, by the majority of observers.

As to the second class of causes, we might cite the tendency of pyloric tumors in producing gastroptosis. In fact, where gastroptosis does not exist in cases of pyloric tumors, the presumption of adhesions of the pylorus to the liver holding it up and in place is probable. The pressing of an enlarged liver, therefore, upon the stomach will easily dislocate it, as well as an enlargement or tumor of the spleen.

The drawing downward of the stomach by the incarceration of a piece of the greater omentum in an inguinal hernia, as well as a hernia of the linea alba, is not only possible, but comparatively often the case.

It is claimed that descent of the right kidney, which is held to the posterior wall by areolar tissue, and which lies in back and above the duodenum, occasionally presses upon the descending and transverse portion of the duodenum, producing a mechanical stricture of such extent as to cause motorial insufficiency of the stomach, and frequently gastroptosis. Most authorities now believe that a descended kidney has seldom, if ever, such dangerous results in its trail, and though delay in the expulsion of the chyme into the duodenum is possible by the compression upon the duodenum of a descended kidney, still it practically never advances either to the stage of complete motorial insufficiency or gastroptosis. Of much greater causative value for not only gastroptosis, but enteroptosis, is tight lacing. The compression of the abdomen along the line of the stomach and transverse colon can have the effect of dislocating these organs. The right lobe of the liver forced toward the median line from right to left carries with it the gastro-hepatic ligament, while the spleen shoved from left to right brings the two points of gastric support closer together, resulting frequently in the centre of the great curvature sinking in the abdominal cavity lower than normal.

The same applies to the ligaments holding the hepatic and splenic flexures in their positions, for if tight lacing forces the two flexures toward the median line, the centre of the transverse colon necessarily tends to sink downward, occasionally producing a mechanical stricture of greater or less extent of the intestines at the accentuated angle of both the hepatic and splenic flexures; a gathering of feces frequently occurs at either of these flexures, and an obstinate constipation results.

In predisposed individuals the heavy fecal accumulations weigh heavy upon the supporting ligaments, and gradually at the most vulnerable point, which is the hepatic flexure, atony of the supporting ligaments set in, and sagging occurs. With this as a beginning the atony and sagging rapidly spreads to the peritoneal supports of the transverse colon, liver, spleen and kidneys, and, in fact, all abdominal organs. Experience teaches that comparatively often the gastroptotic and enteroptotic condition began after parturition, or after tapping for dropsical effusions, when the abdominal cavity was much too large for the organs contained. The mesenteries supporting the various organs are denied under these conditions the counter-support of the abdominal muscles; stretching of the mesenteries occurs, and ptosis results. And finally, gastroptosis can be and often is the consequence of spinal deformities.

Splanchnoptotic patients can have the cardinal symptoms of any gastro-intestinal disease; hence, we cannot place too much confidence in the symptoms given—irregularity of appetite, fullness and heaviness after eating, belching of gases or sour fluids, pain in the epigastrium, either after eating or at indefinite times, as early in the morning before breakfast, or else severe pains running from side to side along the line of the transverse colon and around to the spinal column, or nervousness and anemia, or diarrhea, but principally constipation in combination with a membranous enteritis. From these general symptoms alone one can observe that the clinical picture of splanchnoptosis is too indefinite for the diagnostician to have more than a suspicion of its presence; its absolute recognition must depend on physicial examination.

For the easy accomplishment of this examination the patient is placed in a semi-reclining position, at about an angle of thirty degrees with the bed, and told to breathe deeply and quietly through the mouth, relaxing thereby the abdominal muscles. Both hands of the physician are placed flat on the abdomen immediately below the organ to be examined, and allowed to rise and fall for a half to one minute with each inspiration and expiration. After the abdominal muscles are accustomed to the presence of the palpating hands, gradual downward pressure is made on each inspiration, and as the diaphragm forces downward and forward the various abdominal organs they strike against the resisting palpating fingers. This method of examination is best suited for the recognition of a dislocated liver, greatly descended kidneys and large intestines. For a beginning or slightly descended kidney or spleen it is better to place the left hand in the rear of the organ to be examined and press forward, while the right hand, resisting the abdominal muscles during inspiration, is stuck by the malplaced organ. For a better examination of the spleen the patient should be placed on the right side with the left arm over the head. If the spleen is enlarged or descended it strikes on inspiration against the resisting right hand, otherwise not. Stiller's sign of a floating tenth rib is frequently noticed, and, if present in the healthy individual, speaks strongly for an enteroptotic tendency. Palpation of the abdominal organs can often be satisfactorily accomplished in the erect posture, but, all considered, I believe the best results are obtained in the reclining position.

The stomach is best dilated by the administration of a half-teaspoonful of bicarbonate of sodium dissolved in a fourth of a glass of water, followed by a half-teaspoonful of tartaric acid dissolved in another fourth of a glass of water. The gas resulting from the combination of the sodium and tartaric acid dilates the stomach and brings the greater curvature prominently out, and on percussion easily recognized. The greater curvature of the stomach in gastrotopsis will be found either on a level with, or below, the umbilical line, while the smaller curvature rests several inches above the umbilicus, and one to two inches below the liver border.

The transverse colon can frequently be followed by the palpating fingers below the greater curvature of the stomach. After the condition has been recognized the question arises, what can be done to alleviate, or clinically cure, the condition? In a general way we can answer that we have diet, massage, electricity, hydrotherapy and mechanical treatment to combat the affection. Diet, like a sword cutting both ways, must be used with judgment and care, and while in the comparatively well-nourished a great restriction of certain foods are made, in others, through improper advice and personal experience, so little food had been taken that a marasmic condition often presents. In these cases a great deal of rich though easily assimilated food, after the fashion of Weir Mitchell, is indicated. I have seen excellent results in certain picked cases from the Weir Mitchell treatment, and can, I believe, highly recommend its approbation. Together with diet, we can utilize massage, electricity and hydrotherapy.

The use of an abdominal supporter is very important, and should be applied to every complaining case, if symptoms are relieved by the physician raising the abdomen when standing in rear of patient. Its effects is to reinforce the abdomen and shove the intestines and stomach backward and upward. The supporter is made of cloth or leather, and strengthened by the addition of several vertically placed leather strips. The cloth or leather, whichever it happens to be, extends from the umbilicus to the pubes below, and about three inches on either side of the mid-line of the abdomen. On the left side two cloth straps are attached, which are carried around the body and buckled on the right. Two thin rubber tubes are brought between the legs and attached to either side of the belt, so as to steady the supporter and keep it from slipping upward. The pressure of the support is upward and backward, directly reverse to the descent of the intestines downward and forward.

As examples of well-marked ptosis of abdominal viscera, I should like, before concluding this paper, mention two cases.

The first, Mrs. L., a German lady forty-seven years of age, slender of build and anemic, complained for the past ten years of a feeling of fullness and weight in stomach, and belching of considerable gas and frequently sour fluids after eating. She stated that she had a sticking, disagreeable pain at irregular times in abdomen, which frequently coursed around the abdomen on a line with the transverse colon. These pains occurred as frequently on an empty stomach as after eating, and, in fact, at times seemed relieved by the drinking of a glass of milk. Appetite was irregular, at times being good, then again bad. In former years she felt nauseated, and frequently vomited one or two hours after eating, but in the last several years has been free of this symptom. Bowels were not only very costive, but the fecal column was usually surrounded with mucus. Frequently, without fecal defecation, a mass of transparent mucus, preceded by considerable pain, was passed. On palpation one could feel both kidneys and spleen, as well as transverse colon. The floating tenth rib was easily recognized. On dilatation of the stomach by the administration of a seidlitz powder in the way above indicated, the greater curvature was found an inch below the umbilicus. The examination of the stomach contents after the administration of a test breakfast, revealed the presence of an excess of gastric secretion, as well as an increased amount of hydrochloric acid. A typical case of ptosis of abdominal viscera existed.

I suggested to her the advisability of a hospital for the purpose of carrying out a Weir Mitchell treatment, but failed because of her antipathy to hospitals. This necessarily forced me to a home treatment. Through observation I noticed the motility of her stomach was fairly good, and therefore I did not markedly restrict her diet. She was not allowed to eat very much at one time, but was encouraged to eat often. Milk formed a prominent food in her diet, as experience showed liquids in moderate quantities did not have the effect in her case of accentuating the feeling of fullness and weight, which it often does in gastroptotic cases. Toast, crackers, zwieback, etc., were eaten frequently with the milk. Scraped beef, sweetbreads, breast of chicken, calf brains, together with mashed potatoes, prepared with milk and butter, spinach, cauliflower and baked apples, or other cooked fruits as desserts, were allowed her. All these heavier foods were taken near the mid-day. The evening meal consisted of a glass of milk with several tablespoonsful of coffee, added to make it more palatable, and a thin slice of cold ham with toast and butter.

As far as possible the desires of the patient were consulted and followed in the quality of food given, while the effect on the stomach was taken as a guide for its propriety or impropriety. In fact, in all cases of diet the patient's desires as far as possible should be consulted, for experience teaches that the most indigestible food to one can be the reverse to another. The old adage of one man's food being another man's poison should not be overlooked in treating gastro-intestinal cases. Her stomach was lavaged mornings with a saline solution of physiological strength, which in two weeks was changed to every second day, etc., until gradually it was given up entirely. For the regulation of her bowels a powder composed of pulvis rhei 20.0, bicarbonate of sodium 10.0, saccharum lactis 15.0, of which she took half-teaspoonful in half-glass of water nights before retiring; and lastly I fitted to her an abdominal supporter. The results were magical after the use of the supporter. The gastric symptoms cleared up, and, as she said herself, she never felt better in many years. Her digestive disturbances were gone, her weight increased, her domestic ambitions returned, and, in fact, in every way she felt well.

My conviction was at that time that her condition was only symptomatically cured, and probably the symptoms would return if she discarded the use of the supporter. I felt assured by the wearing of the supporter over a period of months that the weakened ligaments would gain tone, the muscles of the gastro-intestinal system strength, and that finally she would be able to depend on the abdominal muscles alone for their support. Up to the present time patient, so far as I know, has been feeling well.

The second case was referred to me by Dr. M., of this city. The patient, Mrs. P., another German lady, fifty-four years old, tall and thin, with skin of a peculiar dirty yellowish color, and of a very nervous temperament, complained for the first time thirteen years ago of pain in both arms, which, peculiar to say, upon subsiding left innumerable numbers of skin fibromata, varying in size from a pea to a good-sized hickory-nut. About this time she complained of a sensation of fullness and weight in stomach, and a belching of gases and sour fluids after eating. Pain was not associated with eating; in fact, it was frequently relieved by the taking of a glass of milk or other liquid foods. The pain radiated around the abdomen along the line of the transverse colon up through the left mammary gland into the axillary space of this side. These pains felt to her like pins and needles. She complained bitterly at times of a disagreeable feeling along the transverse colon, like the movements of a snake. Her appetite and sense of taste were irregular, sometimes good, then again bad. Her bowels were usually costive, but at times were interrupted by diarrhea. Much mucus was passed either with or without fecal defecation. On aspirating the stomach mornings nothing was found except a tablespoonful of mucus. After the taking of an Ewald test-breakfast the hydrochloric acid was slightly above normal, and the food well broken up. Succussion was markedly present.

On dilating the stomach by the administration of a seidlitz powder in the way above described, the small curvature was located about one or two inches above the umbilicus, while the greater extended into the pelvic cavity. Both kidneys were easily palpated and quite painful to touch. The spleen and lower border of the liver was felt. The floating tenth rib was present. The case was easily diagnosticated as one of splanchnoptosis. In this case, as in the first, I was unable to secure hospital treatment, although she was willing to go to bed at home and follow any treatment I might suggest. I gave her a nutritious and easily assimilated diet, not very much at one time, but oft repeated. Her stomach was lavaged with a saline solution, first every day, then every second, then third, then fourth day, until finally it was dispensed with entirely. Her bowels were regulated by the same laxative as in the first case. While the patient remained in bed she felt quite comfortable, but, fearing the return of the disagreeable symptoms on assuming the vertical posture, I advised an abdominal supporter.

She was kept in bed for four weeks, after which time she was allowed up, and within a week came to my office for the massage of her abdomen. The results were good, and though not entirely relieved, she frankly states her condition was vastly improved, being better than it had been at any time during the past thirteen years.

There is no doubt but that the majority of splanchnoptotic cases can be benefited, and even clinically cured, by the therapeutic agents at our disposal.

DISCUSSION.

Dr. Henry Wald Bettmann: Dr. Rattermann has presented an interesting paper on a very important subject. Not much attention was paid to the position of the hollow abdominal viscera until Glénard, of Lyons, published a series of papers from 1885 to 1887, dealing with this topic. Glénard stated that many symptoms which had been previously ascribed to prolapse of the right kidney were in fact due to prolapse of the colon and the stomach. Glénard thought that prolapse of the hollow viscera was the anatomic basis of neurasthenia. Glénard's articles caused widespread interest in France and in Germany. It was found that in children prolapse of the right kidney and the stomach is unusual; that it begins to be common after puberty, especially in girls, and that in maturer life the majority of women have stomachs anatomically prolapsed.

A stomach may be considered prolapsed when the lesser curvature lies below the border of the liver. The most common cause of this condition is undoubtedly the use or abuse of the corset. The corset compresses the liver; the liver in turn forces downward the right kidney and the pyloric end of the stomach.

Dr. Rattermann's case of splanchnoptosis in a young child is of special interest because visceral prolapse in early childhood is rare, and still more rarely produces symptoms. Gastroptosis *per se* usually produces no symptoms. Meinert, of Dresden, thought that the chlorosis of growing girls was due to gastroptosis, but it is impossible to agree with him. One cause of visceral prolapse was not sufficiently emphasized by Dr. Rattermann, viz., emaciation. Long standing disease, accompanied by loss of fat, leads to weakening of the intra-abdominal ligaments, and is often followed by splanchnoptosis. One practical lesson to be derived from this fact is that the convalescence from exhausting diseases should be carefully guarded. A typhoid fever patient, for example, should not be discharged from observation until his original body weight and his strength are quite fully restored. Many cases of gastroptosis and atonic dyspepsia in men can be traced directly to attacks of typhoid fever. This fact is not clearly stated in the text-books.

Regarding the treatment of these cases, Dr. Rattermann has left but little to say. The dietetic and hygienic *régime* recommended by him are certainly the proper ones. Exception must be taken to his statement that all cases must be treated with the abdominal bandage. Often, I think, more active measures, such as athletic exercises, are preferable. It is often advisable to direct the attention of patients away from the abdomen rather than towards it. I think that in the great majority of instances it is unwise and even detrimental to tell our nervous patients that they have prolapse of this or the other abdominal viscus. Many nervous women have been rendered needlessly unhappy by being told that they have a movable right kidney. Usually, when the general health is built up and fat is added, the symptoms due to ordinary malpositions disappear. In all other respects Dr. Rattermann's suggestions as to treatment are admirable.

Dr. George A. Fackler: The important rôle played by the proper conception of the causes of enteroptosis in the selection of appropriate treatment in the individual case lends special interest to its etiology. While Glénard suggests a variety of causative factors in the production of enteroptosis, he assigns as the chief cause primary disease of the large intestine, so that, according to his views, the genesis of the lesion is to be sought in the intestine, beginning with a descent of the hepatic flexure. This assumption of Glénard does not appear very plausible, since it is difficult to explain the same damaging effects to the bowel in this locality from such widely varying causes as trauma, corset compression, pregnancy, etc. Without doubt the process usually begins in the region between the pylorus, duodenum and hepatic flexure I am ready to accept the suggestion of Aufrecht that the ailment has its origin not in the stomach or intestine, but that in a large number of cases a nephroptosis is the preliminary event, upon which the resultant enteroptosis depends. In favor of this contention it is suggested that the right kidney is "the" organ in the abdominal cavity especially prone to change in position, to ptosis. For the induction of this condition neither antecedent injury nor malposition of neighboring organs are necessary. Nephroptosis occurs in childhood without cause. It is claimed by some that one out of every two women has a movable kidney, and generally on the right side. Only in rare instances can it be determined that any special traction from the colon was required to dislocate the kidney, and we may assume that the ligamentous attachment of the kidney to its adjacent parts was lax at all times. Even before the slightly dislocated kidney can be palpated it may already be the cause of the gastric distress, the atonic dyspepsia, which is so frequently proposed as the cause of the ptosis.

We may explain the clinical manifestations thus: With the extraordinary disposition of the right kidney to change its position, as demonstrated in children and many adults, chiefly women, as the result of mechanical effects, being directly forced out of its normal position by a scoliotic vertebral column, or indirectly through the medium of pressure from the liver in severe exertion, tight lacing, distension of the abominal wall during pregnancy or ascites, despite its apparent solid attachment to the surrounding parts, it furnishes the offending element in the production of so called enteroptosis, with its attendant symptoms. Even in the first stage, because of the union of the kidney and duodenum by the duodeno-renal ligament, traction on the duodenum must ensue and unfavorably influence its function. At this period the erroneous conception of the gastric disturbances is created, their relationship of cause and effect with the enteroptosis being reversed. The traction of the duodenum, in its turn, upon the stomach leads to direct irritation of that organ with retention of food, gastric complaints, as pain and emesis, etc. Symptoms on part of the colon may now be added. The kidney, in its downward course, strikes the hepatic flexure and disturbs peristalsis not only because of its own volume (as an obstruction), but also because in its advance it drags down the hepatocolic ligament. As a result are heard complaints arising from stasis of the contents of the ascending colon, *i.e.*, constipation, colicky pains, etc.

Too much stress cannot be laid upon the importance of seeking for such lesions in hysterical and neurasthenic women, with prominent complaints about abdominal organs. The cumulative effects of the persistent and continued traction in the right abdominal region must exert a damaging influence upon the central nervous system, and, according to the predisposition of the individual, develop hysteria or neurasthenia.

This brings us to the consideration of treatment. If the causative iufluence of a dislocated kidney is established, preventive measures should be adopted to insure against the resultant effects of the nephroptosis. Having in mind the distressing manifestations on part of the digestive apparatus and the evil effects upon the nervous system, the two chief complaints in enteroptosis, we are surely justified in recommending surgical interference as soon as diagnosis of nephroptosis is absolutely positive. Only by securing the kidney in its normal bed can the patient be spared the evil consequences.

Dr Rattermann: The first speaker, in emphasizing the importance of emaciation in the production of ptosis of abdominal viscera, is certainly correct. It is reasonable to suppose that in emaciation, from whatever cause, the muscles and tissues of the body generally are weak and extremely reactive to extraneous causes. The peritoneal supports of the stomach as well as the other abdominal organs stretch more readily under these conditions than normal. It has been my experience that whenever patients complain of gastric or abdominal symptoms that can on examination be relegated to an enteroptotic cause, and which can be relieved by lifting up the abdominal organs when standing in the rear of the patient, that such patients are much benefited and often clinically cured by the abdominal supporter. Nephroptosis is one of the interesting chapters of internal medicine. Many cases of apparent gastric ulcer have been relieved permanently by the recognition and mechanical or operative correction of a descended kidney. Nephroptosis plays a most important rôle in the diagnosis of these two conditions, as every symptom of gastric ulcer, excepting presence of blood in feces or hematemesis, can be simulated by it.

As to nephroptosis being a primary cause of a gastroptosis, without being considered as simply a link or forerunner of other underlying conditions in the chain of etiological factors, is a question difficult if not impossible to decide. Every clinician, I believe, is willing to admit the importance of tight lacing as a potent etiological factor in gastroptosis as well as a general splanchnoptosis. Doubtless many of the gastric ailments amongst the young women of to-day. just budding into the full bloom of womanhood, are due not infrequently to the criminal ignorance, as well as careless indifference to hygienic dress. It seems reasonable that as long as the esthetic in womanhood lies along the lines of deformity and malposition of abdominal organs, as a result of this vicious practice, ptosis of abdominal organs will continue to occupy one of the most, if not the most prominent place in the category of annoying disturbances in the susceptible young woman. It seems to me that our scope of usefulness is practically limitless, if we would but spread the knowledge of the deleterious effects of tight lacing amongst those of our patients whom we suspect. Point out to a woman in an earnest manner the folly, not to say danger, of her way in tight lacing, and unless vanity be present, and that to such extent as to hinder in the use of a little reason and common sense, I believe your remarks have not fallen on barren soil. Sooner or later, but usually the former, sprouts of your good advice will manifest themselves, and possibly in her, as well as those influenced by her, you may have unwittingly been instrumental in saving from the disagreeably annoying symptoms of a splanchnoptosis.

REPORT OF A CASE OF POPLITEAL ANEURISM, TREATED BY ARTERIORRHAPHY.

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Suture of the arteries and veins for traumatism, and for veno-arterial aneurism, has been practiced with encouraging success during the last eight or ten years. Experimental and clinical work of especial note has been done by J. B. Murphy, of Chicago.

Rudolph Matas, of New Orleans, in *Annals of Surgery*, February, 1903, in a classic treatise of the whole subject, advocates a new method of procedure which supersedes all that has been written before. Matas has operated on four cases by this method. He submits the following propositions, as extracted by Murphy for "Practical Medicine Series," March, 1903, namely:

The recognized advantages of the radical operation for the cure of peripheral aneurisms may be greatly increased, and its sphere of appreciation broadened by suture and obliteration of the sac instead of the classical ligation, with or without extirpation, as hitherto practiced.

Closure of the arterial orifices supplying the sac, whether single or multiple, by suture, and within the sac itself, greatly simplifies the technique and is a reliable means of securing hemostasis.

In favorable cases—and saccular aneurisms with a single orifice are most favorable—it is possible by careful suture to obliterate the aneurismal opening without obstructing the lumen of the parent artery, thus protecting the limb from gangrene.

It is also possible in favorable cases of fusiform aneurisms of traumatic origin, and in all those in which the sac material is healthy and pliable, to restore the lost continuity of the artery by building a new channel which will connect the two main orifices of communication.

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* Read before the Ohio Valley Medical Association, Evansville, Ind., November 9-10, 1904.

The fear that atheroma and other degenerative changes will interfere with the healing of the arterial tunics has been greatly exaggerated, as shown by the abundant experience of the aseptic period in the ligature of sclerotic arteries in continuity, in the absence of secondary hemorrhage in the amputated stumps of the aged, diabetic and other arterial diseased subjects, and is demonstrated more fully by the observations and statistics of the partisans of the radical operation by extirpation who have reported numerous successful results in spontaneous as well as in traumatic aneurisms.

The fallacy and dangers of the old operation of Antyllus lie in the fact that preliminary ligation above and below the sac will not always control bleeding from the collaterals, which often open into the aneurism or into the main trunks between the orifices in the sac at the seat of ligature. This compels a more or less extensive dissection of the sac out of its bed as one of the necessary features of the procedure, in order to secure all collateral vessels that empty into the sac, unless the uncertain process of plugging the openings and packing the sac itself is resorted to. If the sac is dissected, as is usually done to secure the collaterals, the difficulties of the operation are increased, and the vitality of the limb is endangered by interfering with the collateral circulation, which, in many types of aneurism, is most freely developed in the neighborhood of the sac.

Another serious objection to the old Antyllian operation as usually performed is that the sac is allowed to remain as an open cavity, where it is packed or drained and allowed to heal by granulation, inviting infection and suppuration, with consequent secondary hemorrhage.

The greatest objection to extirpation lies in the decided interference with the collateral circulation in the immediate vicinity of the aneurism, which entails considerable risk of gangrene in the distal part. All these dangers are reduced to a minimum and largely eliminated by simply obliterating the sac instead of extirpating it.

The technique of Matas' method is as follows: The circulation is controlled by proximal compression. The sac is then opened longitudinally for its whole length, avoiding dissection more than necessary to expose and protect important overlying structures. Evacuate fluid and clotted blood and search carefully for openings of vessels. In a fusiform aneurism there are two large openings, and in a sacculated, one; in addition, mouths of collateral vessels must be looked for closely, and, if there is any hemorrhage, sutured at once. The interior of the sac is wiped gently with gauze soaked in sterile salt solution. The visible openings are closed by continuous sutures of chromatized catgut on round, full-curve needles, eight or ten sutures to the inch. For closing the larger openings the needle should penetrate one-fourth or one-sixteenth inch beyond the margin of the orifice, and then after reappearing at the margin dip again into the floor of the artery, and continue to the opposite margin as in the start.

It is frequently advantageous to continue the sutures from one orifice to the other, including the floor of the sac, and applied on the Lembert plan. The constrictor is removed, any oozing stopped by pressure and the subsequent part of the operation. A second row of Lembert sutures over the first is sometimes useful when the sac is very large. The skin flaps, lined on their inner surface with smooth sac wall, can, as a rule, be made to touch the bottom of the cavity by one or two relaxation sutures on each side, applied with a larger-sized, full-curved intestinal needle, grasping a considerable portion of the sac wall in its bite, and penetrating the entire thickness of the sac. The ends of the loop thus formed are carried through the skin flaps by transfixion with a Reverdin needle and tied firmly over a loose pad of gauze. The skin is then sutured.

W. O. Bullock (*American Medicine*, August 29, 1903) operated successfully in a case of traumatic aneurism of the femoral by Matas' method. Robert Morris (*Annals of Surgery*, February, 1904) reports a successful arteriorrhaphy, according to Matas' method, in a case of fusiform aneurism of the proplitea.

My case was briefly reported before to-day during a discussion of this subject incident to Dr. J. F. Binnie's paper on this subject before the Surgical Section of the American Medical Association, at Atlantic City, June, 1904.

Mrs. M., American, aged fifty-nine, farmer's wife and mother of a large family, was referred to me by Dr. J. O. Malsbury, of Peru, Ind. Patient, thirteen years ago, was shot transversely through the right thigh just above the knee joint. There was much external and subcutaneous hemorrhage; a big tumor developed posteriorly above the knee joint. Patient was laid up and suffered much pain for several months. The swelling reduced gradually, but did not wholly disappear. Patient walked freely without pain afterwards. Later the swelling in the hollow of the knee was observed to beat "like a little heart."

Three years ago, during a physical strain, patient was suddenly seized with pain and swelling at the old site. A physician saw the case several days later and pronounced that a vein had burst. He recommended rest and prescribed an anodyne. Months passed before this swelling subsided and patient could resume walking. A pulsating tumor again was observed.

Six weeks before I saw the patient she had again experienced pain in the part, followed by swelling. The attending pain was excruciating at times, shooting up and down the limb. There was steady increase of swelling and a numbness; walking on account of pain was almost impossible. Latterly patient had fever and chills. Morphine had been freely administered.

May 9, 1904. *Status præsens:* Tall, fairly nourished woman, looks older than age given. The right thigh from the knee joint upwards about ten inches is the site of a tense swelling. This thigh is more than twice as large as the other, measuring nineteen and one-half inches in circumference. Two scars, one on each side of the thigh, indicate the points of entrance and discharge of the bullet. The swelling is hard, excepting at one or two points, which suggest the softening of an abscess. The tumor is non-pulsating, though a bruit is heard over the limb posteriorly. The leg below is less warm than the left, benumbed, pale, movement painful and interfered with. The limb is held at an obtuse angle. There is some edema. No pulsation could be felt of any of the arteries in the leg or foot. The arteries of the wrist some hardened. Temperature on this day varied between 101.2° and 102.2°; pulse intermittent, 90 to 152. Bowels constipated. Skin dry and swarthy. Urine scant, specific gravity 1008, reaction acid, contained pus and pyelar and bladder epithelia. Bladder irritable.

Diagnosis: Rupture of a traumatic sacculated aneurism. Pyelitis and cystitis. Patient showed evidence of bad assimilation and elimination. The temperature, it was considered, might be associated with the softened area in the swelling, though the recurrent bladder disease possibly was alone at fault.

X-ray was invoked to exclude the possibility of osteo sarcoma as a sole or as a complicating feature, with negative result.

Treatment: Sodium salicylate; copious nutritious fluid diet; saline enemata and bathing; strychnia, codeine and bromide. Locally antiphlogistine. Operation was proposed and uncertainties fully explained to patient and friends. Patient was anxious to have relief by cure or death, but her family withheld its consent and action was postponed. Under rest in bed pain grew less; swelling did not increase and skin and appetite and urinary trouble improved. Pulse altogether stronger, though variable, 80 to 135.

Operation, May 30, 1904. Chloroform. Ischemia with Martin's bandage from foot to swelling at knee, and a second bandage beginning over upper part of swelling to Scarpa's triangle; Esmarch's tourniquet. Incision in median line posteriorly over entire length of swelling. Beneath deep fascia blood was found. The blood was mostly clotted; some semi-organized in various stages. The blood was scooped out. It filled a two-quart pan, being found everywhere in the interspaces between muscles and fascia. No pus was found. The popliteal artery in the bottom of the wound had an irregular opening in it measuring three-fourths of an inch in its greatest longitudinal length and five-sixteenths at its greatest width. The parts adjacent for an inch or more were covered with a thickened layer adherent to its base, suggesting a semi- or poorly organized blood much devitalized and partially necrotic. This was covered more or less with a dull glistening membrane continuous with the intima of the vessel. The margins of the popliteal opening showed this lining in best condition, though distinctly membranous parts existed only in two little flaps or tags one-eighth of an inch wide on one side of the opening and one tag of the same size on the opposite side. Anything like a sac wall was absolutely wanting. The arterial wall adjacent to the opening had little hard plates with ragged sharp edges upon it, evidently calcareous deposits. For the moment it seemed the case was not amenable to sewing, owing to atheromatous arterial wall. Also Matas' suggestion to plait the sac to fortify the arterial suture was not feasible. There was no sac wherewith to do this. Ligature of the artery according to classic methods, in the present condition of the limb, was sure to be followed with gangrene of the limb. While passing the finger over the margins of the popliteal opening some of the calcareous matter came away. Examination revealed almost all of it to be scaly and removable. After its removal there was found a hard though not entirely unpliable tissue. Upon this finding I decided to sew up the wound as in simple arteriorrhaphy. Even as a temporary expedient it seemed justifiable. With a competent nurse at the bedside constantly and everything prepared for an instantaneous operation, a dangerous turn or leakage, I calculated, could be detected in time to avert disaster. The improved circulation through the limb, if even for a day or two only, would make ligature, if it subsequently became necessary, more hopeful as regarded life and limb.

The popliteal vein, as, indeed, all the finer structures of the knee pit, could not be made out. These parts were covered by the semi-organized much devitalized membrane, or sac wall, in a manner precluding much tentative manipulation. The possibility of an arterio-venous aneurism had been entertained. This could not be definitely excluded even now. A probe was introduced into the artery and evidence of a lateral venous anastomosis was gently sought, but not found. A Van Horn No. 1 twenty-day chromatized catgut was used in continuous suture to close the popliteal artery. Murphy and Metas have pointed out the histologic and physiologic resemblances existing between endothelial intima and the peritoneum. I decided to trust to the apparently fair condition of the endothelial lining at the margin of the wound. A longitudinal suture would have materially reduced the calibre of the vessel, so I decided to sew the opening somewhat transversely, as is done in the Miculicz-Heinicke operation for stenosis of the pylorus. The effect obtained was satisfactory. The sewed vessel, if anything, seemed wider in calibre at the point of suture. A fortifying suture near each end was placed, but these gave little additional support because of the scarcity of tissue available. I had not determined the location of the popliteal vein. Even though the sac wall had been less friable the failure to unravel the anatomy made sewing impracticable.

Immediately after placing the sutures described the tourniquet was loosened. The artery within a few seconds began to show life, and directly pulsated normally. There was no leakage.

The large cavity formerly occupied by the extravasated blood was now thoroughly irrigated with salt solution, mopped dry and packed with mild iodoform gauze. The incision of the skin was closed with sutures above and below, leaving unsutured two inches over the popliteal artery. An abundant gauze and cotton dressing was applied tightly with roller bandage and the limb fixed by a plaster-of-paris dressing with the knee at an angle of above 110 degrees.

Shortly after patient was returned to her room the temperature showed 97.5° in the axilla, pulse 100. Two hours later temperature 98.8°, pulse 109. About this time increased frequency of intermittence of pulse, and occasional yawning and sneezing and hiccough were observed. Otherwise nothing unusual was observed. Patient's pulse and temperature for days continued about the same as immediately before the operation, *i.e.*, 98.4° to 100.2°, pulse 84 to 128. These passed without greater trouble arising.

The leg and foot of the diseased side was complained of during the first twenty-four to thirty hours. There was occasional darting pain and pricking sensation. Wound was dressed forty-eight hours after operation. Gauze packing was removed. The wound was dry everywhere except at one point high up on the thigh, where a slight venous hemorrhage had occurred. Strands of chromatized catgut were placed in the wound for drainage. A gauze roller compression bandage was applied over limb, and the limb fixed with plaster-of-paris splints. At the next dressing, five days later, the wound was found healed. No evidence of retention. Drains were left *in situ*. Circulation of limb normal.

Patient voided her urine in reasonable quantity the first day and part of second day. Then had a retention which was relieved by catheter. Following this she had greater frequency of micturition. The urine became cloudy and showed pus and renal and bladder epithelial cells. Cystogen was administered internally and the bladder irrigated. Aside from these morbid phenomena patient seemed in better condision and cheer than at any time since I had her under observation. On tenth day the bladder symptoms were found worse. Temperature by axilla 100°, by rectum 100.8° to 102°. Pulse 84 to 100. Patient became slightly delirious. The following day temperature rose to 103°, pulse at times 120. Patient had much pain in bladder and back and required morphine repeatedly. On twelfth and thirteenth days these conditions grew worse, temperature 104.3°, pulse 134. On fifteenth day *excitus letalis*.

Post-mortem was confined to leg. External wound had healed perfectly. Some necrosis was found in spots, where seemingly semi-organized blood had broken down. Death was ascribed to pyelitis and cystitis. The resected portion of the poplitea herewith presented shows a perfect closure over the former opening. The poplitea on its posterior surface was covered with the deep fascia and fatty tissue of the skin, in firm adhesion to it. This shows that, with compression applied, these parts may be relied upon to give support, where the aneurismal sac is not available for such purpose.

The artery as seen from within shows the calibre actually wider at the seat of suture than above and below. The tissues of the artery wall are in evidence of advanced atheroma. There is a cup-shapeddepression at one point by the side of the suture. Notwithstanding this evidence of a bad arterial wall, the suture held.

What would have resulted had the patient survived the kidney disease is disputable. Possibly a thrombus would have covered in the weakened point. Possibly a new idiopathic aneurism would have developed in time. But be this as it may, it seems justifiable to conclude by the experience of this case:

1. That traumatic aneurism is amenable to suturing.
2. That even much atheromatous degeneration of the artery wall does not necessarily contraindicate suture, at least as a temporary expedient.
3. That fortifying folds of aneurismal sac are not absolutely necessary.
4. That early surgical interference in these cases seems clearly indicated.

DIGESTIVE DISTURBANCES—A CLINICAL STUDY.*

BY J. HENRY SCHROEDER, M.D.,

CINCINNATI.

The designation "digestive disturbances" suggests essentially a clinical picture or group of pictures, widely different in inception and clinical aspect.

We meet the patient who would enjoy to the fullest his comforts and fortune, but who is constantly reminded of indiscretions in his diet by indigestion; again, the patients in whom digestive disturbances constitute but part of many and various complaints that render them extremely miserable. As a contrast we meet the patient who is perhaps suffering greatly from malignant disease of the stomach. Thus the study of digestive disorders has become an important branch of medicine, and boasts to-day of the fruitful interest of most brilliant men.

The very prevalence of digestive disorders gives the assurance that all practitioners are more or less familiar with some types of this condition. In presenting this subject now I do so with the conviction that the opportunity does not always present itself for detailed study of certain cases and phases that are of interest. I shall present cases as I have met them, and avoid text-book repetition as much as connected presentation of the subject will permit.

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* Read before the Academy of Medicine of Cincinnati.

Digestive disorders may be the result of organic disease of the digestive organs, of functional disturbance, either primary or secondary, or of faulty diet. They may accompany psychic conditions which have a depressing influence upon the functions of the body. They do not always signify that there is interference with the chemic process of digestion, either in the stomach or intestines, for the disorder may manifest itself chiefly by subjective symptoms, such as pain and discomfort.

Patients mostly believe that the seat of all digestive disorders is the stomach, and the stomach to them means any region in the abdomen. An examination may reveal that we are dealing with an intestinal disorder, or that the disturbance is due to disease of the contributory organs of digestion, or a reflex manifestation of disease or anomaly in other organs.

Chronic digestive disorders that come under special observation usually occur in adults. Children, however, are by no means exempt. During childhood environments are better and the diet is more easily controlled than in later life, so that urgent symptoms do not always arise.

The following case may illustrate the extent to which a *chronic gastritis* may even progress in childhood:

H. F., a young girl ten years of age, came under my observation in May, 1904, complaining chiefly of pain and distress after taking food, particularly meat. Patient has had measles, but no other serious illness. Present trouble began about a year ago, and became continuously worse. Appetite poor. Patient would occasionally vomit, which would relieve the pain. Bowels inclined to be constipated. The child is but poorly nourished and small for her age. Does not seem to be of nervous temperament. Facial expression suggests adenoids. Lungs, heart, liver and spleen normal. Superficial glands normal. Abdomen distended, but soft. Extremities and joints normal. There is no abnormal deviation of the spinal column. Urine neutral, sp. gr. 1010, albumin and sugar negative. Tongue coated. Tonsils enlarged. Stomach distended with water reaches to one finger's breadth above the umbilicus. The stomach-tube passes without difficulty, and the examination of the contents one hour after the test-breakfast resulted as follows: Amount withdrawn, 50 c.c.; odor, sour; bread only fairly well comminuted. Considerable quantities of tenacious mucus present. Free and combined HCl absent; pepsin and pepsinogen absent (Mette test). Lab and labzymogen absent; milk curdles readily in the acid solution. Total acidity, 40. The motility was further tested on the following day by giving a test meal of milk and bread. Four hours after the meal the stomach was washed. The aspirated water smelled very sour and was largely mixed with curds. After withdrawing the tube the patient vomited a heavy mass of curds, which could not pass through the tube, and which the water was unable to disintegrate. The diagnosis of *chronic gastritis with atony and dilatation* was made.

The treatment adopted consisted of lavage and withdrawal of all food for twenty-four hours; after that lavage, and properly regulated bland food. The stomach symptoms rapidly subsided. After two weeks the stomach secretions had not returned. At that time Dr. Iglauer performed a tonsillotomy and adenectomy. After that time lavage was given three times a week, and then twice a week. At the end of one month patient did not experience distress after even fairly large quantities of meat. The examination of the stomach contents after the test-breakfast gave the following results: Aspirated 25 c.c. Clear liquid. Bread finely divided. Free HCl, 10. Total acidity, 21. Pepsin (Mette test) present in small quantities. Lab ferment present.

The patient had gained during the month four pounds in weight. The chronic gastritis in this case was evidently accompanied by extensive degeneration or atrophic changes in the glandular tissue. The secretion became re-established, and the motor function improved. The child has since remained well.

Considering the benefit derived from proper treatment of the condition, as we know it in adults, I believe that more attention should be paid to such conditions during childhood.

Dilatation of the stomach in children, as in adults, may be the result of different causes. An acute dilatation may be the result of overfilling the stomach. A chronic dilatation may be caused by a weakening of the muscular wall of th stomach, due to chronic gastritis or constitutional causes, or to atony.

Aside from the digestive disturbances that usually accompany gastrectasis, this condition may give rise to certain nervous disturbances, such as tetany, and, according to some authors, convulsions and epileptiform movements.

The effects of dilatation of the stomach in children may assume a special rôle when the child reaches the age when neuropathic tendencies are most likely to assert themselves, especially in young girls at the age of puberty. At this period symptoms referred to the stomach, such as nausea and sometimes vomiting, discomfort and pain, are frequently complained of. The patients are usually anemic. The child may become nervous, fidgety or have all the symptoms of chorea at this age. If there is co-existing with such neurasthenic condition a gastrectasis, this may require direct attention before the patient recovers.

I would state the clinical course of two cases in which a condition resembling chorea existed, and in which a dilatation of the stomach was found to be present. While the patients were seventeen and eighteen years of age, respectively, the condition had existed for five or six years in each case.

F. B., a young girl eighteen years of age, came under my observation in April, 1904, stating that she suffered with stomach trouble. Family history negative, especially with reference to nervous disturbances. Patient has had measles in childhood. Never had rheumatism or scarlet fever. She has been extremely nervous during the last five or six years, and has been treated without any benefit. The symptoms referred to the stomach also date back for the same length of time. The appetite has been poor. Patient complained of more or less constant discomfort and of eructations of gas. Vomited at times food that she had eaten on the previous day. Bowels constipated. Menstruation irregular, but not associated with distress. The patient is poorly developed and poorly nourished. There are marked choreiform movements. Tongue coated. Chest clear. Heart-sounds distinct and clear. The examination showed a dilated stomach reaching, when distended, slightly below the umbilicus. Patient was too excited to permit the passage of the stomach-tube. Lavage could not be given. The patient was put to bed. Daily cold sponge baths were ordered. Under proper dietetic treatment the gastric symptoms subsided gradually. In the course of six weeks, the general condition of the patient was much improved. The choreiform movements had not entirely subsided, but were much less marked.

The second case, S. A., a young girl of seventeen, came under my care in July, 1904. Patient has for the past five years been suffering with symptoms of indigestion, discomfort and burning sensation in the stomach. Patient vomits occasionally, and is subject to severe headaches. Bowels are constipated. Menses very irregular. Patient is well developed and appears well nourished. She is apparently of nervous temperament, seems ill at ease and fidgety, but there are no marked choreiform movements. The tongue is coated. The partly distended stomach reaches the umbilicus. The kidneys cannot be palpated. Examination with the stomach-tube was not permitted by the patient. There was evidently an atony and a dilatation of the stomach of moderate degree. Regulation of the diet alone removed within a very short time the gastric symptoms and restored the patient's comfort. (The patient had always been most uncomfortable and nervous when the symptoms of indigestion had been aggravated.)

In both of these cases treatment directed to the improvement of the general condition, while the dilatation of the stomach was not recognized, had been fruitless.

In this connection the recent observations of Mangelsdorf are of interest. Of 469 cases of migraine studied by this author, 409 had dilatation of the stomach during the attack. He states that treatment directed to the stomach had favorable influence upon succeeding attacks.

The largest number of cases of chronic digestive disturbance are met with in the adult. The indulgence of the epicure on the one hand, and irregular habits and unsuitably prepared food on the other, are largely causative factors. Organic diseases of the stomach in the adult giving rise to digestive disturbance have been thoroughly studied both from a clinical and pathologic standpoint. The disturbance of function accompanying these diseases, and the symptoms as they manifest themselves subjectively and objectively, are the result of definite anatomic changes in the organ.

Functional disturbances of the stomach in every respect similar to those associated with, or following, organic diseases have been classified as *neuroses*. There may be a marked disturbance of either the secretory or motor function, or merely an instability and inconstancy of the functional activity of the stomach, with predominating subjective symptoms directly referred to the stomach. This latter condition has been spoken of as *neurasthenia gastrica*. It may be the local manifestation of a general neuropathic condition, or a reflex disturbance from disease in other organs, and has been commonly spoken of as nervous dyspepsia.

Disturbance of the secretory function of the stomach due to neuroses may or may not be accompanied by gastric symptoms. There may be a complete absence of the gastric secretion, as in achylia gastrica, with perhaps few, if any, symptoms of indigestion. It has been clinically established that if, under these circumstances, the motor function is well preserved, symptoms on the part of the stomach may be absent. Physiologists have demonstrated the interdependence of the gastric and pancreatic secretions, that free HCl passing into the duodenum is an indirect stimulant to the pancreatic secretion, and that it regulates the entrance of food into the duodenum. It is a little surprising, therefore, that a deficiency or entire absence of HCl secretion in the stomach does not affect intestinal digestion and function to even a greater degree than is usually observed. Constipation or diarrhea may be present.

The following case is of interest in this connection:

Mrs. M., aged fifty-six, came under my observation January, 1904, complaining chiefly of chronic diarrhea. The patient had nervous prostration at the age of twenty-eight. Remained well after that until the menopause. Since then, now eight years, patient has suffered more or less with diarrhea. Patient had no appetite. Felt uncomfortable after eating, but did not vomit. She is well nourished and suggests an extremely hysterical tendency. General condition good. Abdomen pendulous. There is no tenderness over the abdomen. The distended stomach is well above the umbilicus. Urine normal, sp. gr. 1008. Stools watery. Examination of the stomach contents shows an entire absence of free and combined HCl Pepsinogen present in normal amount. Lab ferment $^1/_{80}$. The gastric condition was therefore one of *anachlorhydria*. The diarrhea subsided under the rest cure. It is noteworthy that the intestinal symptoms of flatulency and distress were much improved by the administration of HCl The patient declared that she required from five to eight doses, each of ten drops of diluted hydrochloric acid, taken every half hour after a meal, in order to be comfortable. Later on the patient availed herself of my advice to travel. She returned, stating that she was entirely well. Had a good appetite and digestion.

It is possible that in this patient the anachlorhydria did lead to some of the intestinal symptoms, considering the effect of the administration of the acid. The secretion probably returned, though I did not wish to assure myself of this fact by subjecting the patient to another examination.

Symptoms accompanying a *hypersecretion* of acid or gastric juice may be very distressing. We are familiar with the "heartburn" so often complained of. At other times the symptoms are very suggestive of gastric ulcer.

Considering the eagerness with which diagnoses of nervous dyspepsia are made, at times much to the detriment of the patient, it may not be desirable to give the subject any undue prominence in medical writings. I would cite the clinical course of the following case, which is a fairly typical one:

Mrs. A. T. came under my care April, 1903, complaining of indigestion of long standing. The condition has lasted five years. Patient complains of pain after eating, "excruciating pains," only relieved by vomiting. Of late the patient has induced vomiting as a regular thing after every meal. (This according to the patient's statement.) No eructation of gases, nor regurgitation of sour fluids. Appetite fairly good. Bowels constipated. Menses regular. Patient is somewhat emaciated, and is evidently of very nervous temperament. The general physical examination reveals nothing abnormal. There is a scar as the evidence of a previous perineal laceration, but no marked displacement of the uterus. There is no tenderness over the liver or epigastrium. The stomach is normal in position and size. The examination of the contents gives the following results: Aspirated, 35 c.c.; traces of mucus; bread finely divided; free HCl, 30; total acidity, 55 (normal). The patient had in the beginning insisted upon lavage. The pains subsided rapidly under the irrigation. Iron and arsenic were given, and with a regulated diet and general care the patient's general condition improved, and at the end of one month the patient was much encouraged by the remarks of her neighbors as to her evident improvement.

I have met with the following case, which is of particular interest as a physiologic study. We have been taught that the quantity of gastric secretion varies with the demand, that the demand stimulates supply, and that prolonged inactivity tends to weaken physiologic function.

Mr. S. J., aged fifty-five, came under my observation November, 1903, complaining of "stomach trouble." Patient gives the following history: In 1883 he had an attack of what was then called "acute gastritis." Patient was kept on a diet of skimmed milk until that attack subsided, and was cautioned in the use of meat diet in the future. He declares that he has been unable to eat meat since, and has subsisted largely on cereals and vegetables, though he has a desire for meat. He complains of occasional discomfort in the abdomen; never any severe pain. Bowels constipated. Otherwise the patient is apparently well. He is evidently much depressed about his "stomach trouble." He had in his pocket a prescription for a proprietary digestive aid, for he had been under medical care for his digestive trouble more or less continuously. Within reach was a bottle of pancreatic extract, and also some "predigested" beef juice.

The physical examination shows that he is well nourished, and his general physical condition is good. Liver projects one finger breadth below the costal arch. Spleen not enlarged. Urine examination is negative. There are no casts. There is absolutely no tenderness over the epigastrim. No tumor. The stomach is of normal size and position. The examination after the test-breakfast resulted as follows: Free HCl, 50; total acidity, 72. Pepsin: Foam index: 1 = 12 minutes; ¼ = 22 minutes (normal figures). (Method of Schroeder and Bettmann.)

The secretion was normal and the motility was good. According to the patient's statement, which I have no reason to doubt, no great demand had been made by reason of the diet upon the peptic secretion for the past twenty years. I assured the patient that his condition was not at all serious. All drugs were discontinued and a full diet was ordered at once. Lavage was given three or four times about four hours after meals, and the stomach found empty each time. The patient took meat and other food without complaint and with relish, and he assured me that within two weeks after the beginning of the treatment he had taken more meat than during twenty years previous. The patient has, as far as I know, remained well.

In this case there was certainly an opportunity for mental impression to disturb bodily function. With every meal during the last twenty years the patient was given the suggestion that he was unable to digest meat. This suggestion was reinforced by the more or less continuous administration of drugs, which were to replace the supposedly lost function of the stomach, and by the taking of predigested beef products. Being neurasthenic, the patient was certainly susceptible to impression, and it is hard to see how he could escape being a hypochondriac under these circumstances.

The subjective symptoms presented by patients suffering with chronic digestive disturbances may be suggestive, but we cannot base our conclusions as to the condition actually present upon such symptoms alone. The methods of complete and careful examination of the stomach have been so carefully elaborated by many authors that there seems no excuse for neglecting to make an intelligent effort to find the cause of the gastric disturbance. It is of equal importance that not only the stomach be examined, but that in all cases a complete physical examination be made.

The use of the stomach-tube has proven to be an incalculable aid in the diagnosis of digestive disturbances. Certain conditions cannot be correctly directly diagnosed unless the stomach contents are carefully examined, for the quality of secretion, tissue shreds, bacteria and blood.

While recognizing the value of each one of these tests, it is well to bear in mind that they possess only contributory value in the chain of diagnostic symptoms.

The prognosis and treatment of digestive disorders depends much upon the individual case. Medication with digestive ferments is rarely of permanent value in any case.

I have frequently seen cases to whom the stomach-tube had been recommended, and in whom there existed no earthly reason for lavage. I can see the benefit that may be derived from its use by the patient himself in cases of extreme dilatation. I have known of patients who seemed to have developed the habit of the use of the stomach-tube. It certainly can have only pernicious influence on a patient, whose attention had better be directed away from his stomach.

DISCUSSION.

Dr. H. W. Bettmann: All of the cases presented by Dr. Schroeder have considerable interest. Examination of the gastric secretions in childhood are comparatively rare, owing to the difficulty the child has in swallowing a stomach-tube, and any new contribution in this field is acceptable.

The diagnosis of dilatation of the stomach in young children must be taken with considerable reserve. The normal pot belly of young children often causes the impression of a dilated stomach, and the thin abdominal walls permit of a succussion splash which seems to confirm the idea of a dilation, where none, in reality, exists.

The case of achylia presented possesses several interesting features. Many cases of chronic diarrhea in which the diagnosis of chronic enteritis seems natural are due in reality to achylia gastrica. In these cases the administration of hydrochloric acid, with or without pepsin, effects a cure, while intestinal astringents are without avail.

The case in which digestive ferments had been used for many years is very instructive, showing that their administration does not diminish the gastric secretions, as has been commonly stated.

Dr. W. H. Stix: I would like to say a few words about the therapeutic value of hydrochloric acid in cases of diarrhea in which the stomach contents show little or no free HCl present. If the idea is that in these cases the diarrhea is due to the insufficiency of HCl, and that if we administer HCl we can cure the diarrhea, we rest upon a wrong conclusion. If we only give HCl and make no change in the diet, the diarrhea will continue. It is absolutely impossible to give enough HCl to offset the deficiency that exists in a case of anachlorhydria. In these cases Ewald was the first to advocate HCl in very large doses, as much as 80 to 100 drops. He gave it before and after meals. But even as large a dose as 100 drops does not come anywhere near the quantity that is necessary to satisfy normal digestion.

Cases of diarrhea associated with anachlorhydria or hypochlorhydria are due to the patients eating meat which is not thoroughly disintegrated and consequently produces diarrhea. If these patients take HCl in large doses and still continue taking meat they will continue having their diarrhea. If they do not take HCl but are careful that their food is cut into small particles and well masticated, they can live for years without any HCl present, and without any diarrhea. I think in these cases it is more rational to pay attention to the diet. HCl should be given to increase the appetite, and the diet to correct the diarrhea.

Dr. Schroeder: The case of anachlorhydria was mentioned especially to show the effect of HCl administration. We know that in very many of these cases the administration of hydrochloric acid only is not followed by relief. Riegel stated that temporary relief is at times obtained, but he had never observed permanent cures thereby. In this case the patient was the judge. Her symptoms subsided only when the doses of hydrochloric acid had been repeated from four to six times after each meal.

RADICAL CURE OF HERNIA.*

BY HAL C. WYMAN, M.S., M.D.,
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Operations for cure of hernia are now in such general use that there is little need for any preliminary survey of the whole field of hernia. The great work of Marcy, the Mayos and other great American surgeons put radical cure of hernia on such a sound basis that there is nothing to do now but find the hernial opening and sew it up so that the bowel stays where it belongs, in the abdominal cavity.

We understand that in any case of intestinal hernia it is a fair presumption that the intra-abdominal space is not sufficient to contain the intestines, and that the abdominal walls are insufficient to properly embrace the abdominal contents. It is reasonable, then, to assume that surgical intervention for the cure of intestinal hernia should include measures to reduce the volume of the abdominal contents and to increase the size and strength of the abdominal walls.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11-13, 1904.

In radical operations for umbilical hernia we should remove as much of the omentum as we find in the hernial sac, and, sometimes, as much of the bowel as we find adherent to the sac, and thus diminish the intra-abdominal pressure.

Then we should close the opening with a flap taken from the sheath of the rectus abdominis muscle and fasten it with its tubes in such a way that will increase the strength of the abdominal wall at its weakest point, and at the same time not decrease its capacity.

Failure to secure satisfactory results are often due to neglect of these propositions. It may be much easier to reduce the hernia, pull out the sac, tie it off and suture the opening without regard for any special plastic features of the work, but as results are not likely to be altogether satisfactory.

In operating for cure of inguinal hernia there is sometimes a great massing of fibres of the external oblique above the hernial opening and absence of enough fibres to normally embrace the spermatic cord and support the internal abdominal ring.

A hernia with that condition is not likely to stay cured unless plastic surgery is resorted to to drag the fibres down and suture them to the ligament of Poupart, so that there is more room inside the abdomen, while there is more strength imparted to the internal ring and inguinal canal.

In other inguinal hernias the openings may be so large that it is impossible after omentum has been removed and sac tied off and tied away to find enough abdominal muscle to drag down and sustain Poupart's ligament. A flap may be turned up from the fascia lata and in a plastic sense to help cover in the opening, and in other cases two flaps may be made by invaginating the finger with scrotal wall upon it through the abdominal rings. The point of the finger may then be turned upward and held against the abdominal wall, aponeuroses and muscles at a place above the abdominal rings while an incision is made through fibres, fascia, and finally scrotal skin. Then two forceps may be used to catch scrotal fascia and skin on both sides of the wound and drag them up through abdominal muscles and aponeuroses where they can be sutured to the lower margins of the abdominal rings and integument. This method leaves a channel of invaginated skin from external abdominal wall to outer wall of scrotum. It effectually plugs the hernial openings and provides a new place with more room for intestines to press against.

There are so many different methods of treating radically with hernias that have received the sanction of general use that these remarks will incur some criticism for not mentioning them all in detail. They are all useful when applied to a particular case in accordance with the purpose of doing two things, viz., diminishing the pressure within the abdomen and strengthening and increasing the capacity of the abdominal wall.

While the operation is practically the whole thing in radical cure of hernia it is not all in all. After-treatment is very important and diet should be fully adapted to the case.

It is surprising that changes can be wrought in diminishing intra-abdominal pressure after operations for hernia by radical changes in food.

A diet rich in starchy foods should give way for one in which meats and fats predominate. and *vice versa*, with any rule to be applied generally, but with a general rule to be applied particularly.

Suture material used in my practice in hernia cases is linen No. 35. I find that it stands sterilization better than any other material, readily becomes encysted, and I have never known it to work out after tardy and tedious suppuration. Dressings are rarely disturbed until healing is complete.

Patients not infrequently choose to rise from the bed and go to the closet and are encouraged to sit up as soon as the indisposition due to the anesthetic has passed off. There may be something in the notion that the automatic reflexes of the muscles about the hernial openings have something to do with the hernia, and that the disturbance of those reflexes by the repair processes that follow the surgical procedures is a valuable adjunct in the cure, and the auto-imposed rest of the wounded muscles favors a reflex activity of other abdominal tissue so that more room is formed in the abdominal cavity and hernia is less likely to recur.

DISCUSSION ON THE PAPERS OF DRS. WYMAN AND FURGUSON.

Dr. William J. Mayo, of Rochester, Minn., stated that of six hundred or more operations performed in accordance with the Ferguson method, only three relapses had occurred, and he was uncertain as to whether these were really due to the Ferguson or Bassini operation.

Dr. H. O. Walker, of Detroit, Mich., said that the Ferguson method was rational, and the results were good. He had operated by this method over a hundred times and had had no recurrences as yet. He referred to two cases in which he did a perineal prostatectomy in addition to the operation for the radical cure of hernia at one sitting, with satisfactory results.

Dr. Van Buren Knott, of Sioux City, Ia., had been employing the Ferguson operation for some time, and with the happiest results. He had had no recurrences.

Dr. Emil Ries, of Chicago, favored getting patients out of bed as early as possible after abdominal or hernial operation. He did not hesitate to allow his patients to get out of bed and move around on the first two or three days after operation, and had had no unfavorable results following therefrom. He had used the method of Kocher in a number of cases of inguinal hernia, the main point being the inversion of the sac, and had had no recurrences following this method.

Dr Joseph Rilus Eastman: of Indianapolis, doubted the wisdom of allowing patients, after abdominal or radical operationsfor hernia, to get out of bed two or three days after operation, on account of the great strain from pressure on the aponeurosis of the external oblique. He much preferred to keep his patients in bed from two to three weeks then take chances.

Dr. John Young Brown, of St. Louis, preferred the Ferguson operation in cases of inguinal hernia, but said that while the results of this operation were not better than those obtained by the Bassini, he believed the former was much simpler, inflicted less trauma, and therefore should be adopted. While he had no recurrences to report, he thought in a small percentage of cases they would take place. He spoke favorably of the vertical overlapping operation used by Mayo in cases of large umbilical hernia. Prior to adopting this operation his mortality was considerable, but in the last year he did nine operations for large umbilical hernia after the method of Mayo with nine recoveries.

Dr. Thomas H. Manley, of New York, believed that the Ferguson operation had come to stay, for the reason that it was attended with little or no danger to life. He had never seen a patient die from an operation for non-strangulated hernia. Notwithstanding the various methods that had been described, he was rather inclined to advise the one recommended by Lucas Championnière. The results following this method were satisfactory. In the last year he had seen the intestine slough after a Bassini operation, and strangulated hernia occurred after it.

Dr. A. J. Ochsner, of Chicago, stated that the Ferguson operation contained the successful elements of a herniotomy. This operation could be done without traumatising the tissues severely. The patient needed the tissues afterwards, hence traumatism was harmful. It must leave the surfaces free from loose intervening tissue. He emphasized the importance of not injuring these tissues by suturing too tightly.

The discussion was closed by the essayists.

RADIUM—ITS VALUE IN MEDICINE.[*]

BY MYRON METZENBAUM, B.S., M.D.,

CLEVELAND, O.,

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The paper presents a short history of the development of the X-ray and Finzen light and their value as therapeutic agents in the treatment of lupus. It then deals with the personal observations as to the physiological action of radium and its value in the treatment of lupus, rodent ulcer and small epithelioma, as follows:

When radium of at least 7,000 activity contained in hermetically sealed tube, is placed on the unbroken skin for a period of at least three hours it may produce an irritation which may finally result in ulceration of the skin.

When tubes containing radium of 15 grains each of from 40 to 100 activity and one tube of 20 milligrammes 7,000 activity are placed on ulcerated areas they produce sensations not unlike the feeling one experiences in a burn when standing near a hot stove. The radium also causes a peculiar pink injection of the ulcerated and surrounding tissue which may last for a few hours to as long as twenty-four hours.

From very careful observations no difference could be noticed in the physical or therapeutic results when using radium of 100 activity or 7,000 activity.

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[*] Abstract of a paper read before the Mississippi Valley Medical Association, at Cincinnati, Octobrr 11–13, 1904.

REPORT OF CASES.

In all cases the tubes containing radium were placed directly on the area to be treated and held in place by strips of adhesive plaster. The tubes of radium varied fram 40 activity to 7,000. A treatment was given every three or four days and for thirty-five to forty-five minutes each time. No internal treatment was given, and excepting the application of hot water to the parts no local treatment whatsoever was given.

Case I.—Rodent ulcer in a woman, aged fifty-seven, extending from the middle of the right supra-orbital ridge to within 2½ centimeters of the ear and well down on the cheek, causing a loss of the eye. The X-ray had been applied for a period of eight months, but the ulcer continued to spread. Applied tubes of radium of low activity on April 14; after fifteen days ulcerated surface had healed over; photograph taken after forty days shows entire ulcerated surface replaced by fine white scar tissue. No applications have been made within three months, and excepting two very small spots the entire ulcerated surface has remained healed.

Case II.—Male, aged twenty-seven. Four years ago lupus developed to the right of the chin, covering an area of one and a half inches in width, three inches in length. The ulcerated area was dissected out and followed by a course of X-ray treatment. The surface healed, leaving a scar of very firm fibrous tissue which drew down the right angle of the mouth, causing an impediment in his speech. February, 1904, an ulcer the size of a quarter developed on the right side of the scrotum. This did not heal under various methods of treatment for a period of three months. May 23, applied radium of low activity to the ulcerated area, and after three applications the same healed, and has remained healed ever since. To the old scar on the face radium of low activity was applied at four different times. This caused the firm fibrous scar tissue to become soft and pliable so that the angle of the mouth is no longer drawn down to the same degree, nor is it as apparent as before.

Case III.—A young lady, aged twenty-two, had a large lupoid area five centime-ers in length, two and a half centimeters 1 width, which has healed after twelve different cauterizations, leaving a rather rough and firm scar. Around this healed area was a rim of one centimeter in width which was red; in many places there were small denuded areas; in all there were fifteen applications of the tubes of radium which caused the red rim to disappear and the small ulcerated areas to heal, also the firm and somewhat rough old scar became soft and pliable so that it is but slightly noticeable.

Case IV.—Woman, aged seventy-one, developed a small epithelioma on her right cheek, measuring one and a half centimeters in diameter. The glands of the neck were not infiltrated. The radium was applied nine different times and caused the depression to fill in and heal over. Three months have elapsed since the last treatment, and excepting for a slight redness of the area nothing would be noticeable.

Case V.—Woman, aged forty, had a mole above the right supra-orbital ridge. She persistently picked at this until she says she pulled it out clear from the root. Two and one-half months from this time I saw her. There was a deep hole where the mole had been with a diameter of two centimeters extending down to the periosteum of the bone. The edges were highly inflamed as well as the surrounding tissue, and there was a discharge of blood and serum. This is undoubtedly an epithelioma developed by irritating the mole. She has received eight applications of the radium and the deep ulcerated surface has filled in and healed over so as to be barely noticeable.

Case VI.—Woman, aged thirty-two has very extensive lupus vulgaris extending over the entire right side of her face from the ear up into the scalp down to the cheek and back to the angle of the jaw and around to the chin. Various methods of treatment had been tried during many years. The photograph was taken thirty days from the beginning of treatment. In all she has had fourteen applications, and it may be seen that great numbers of the elevated areas have smoothed down and that there is a great amount of new intervening scar tissue which is soft and pliable. Due to illness no applications have been made within two months and all the healed areas have remained well, so this case gives very fair promise of becoming entirely well.

CONCLUSION.

From these cases the following inferences may be drawn, namely, that the rays coming from radium when the same is contained in hermetically sealed tubes placed directly on an ulcerated area that a slight sensation will be felt in from seven to eight minutes, but when the skin is unbroken, no sensation is felt, even if the tubes of radium remain on for a period of thirty-five minutes.

2. If these tubes of radium are kept on an ulcerated area for a period of thirty-five minutes, they produce an increased redness of the diseased part and cause an erythema of the surrounding healthy tissue which may last for several hours or as long as twenty-four hours.

3. That radium rays have caused an ulcerated lupoid area in three cases, an ulcerated area of a rodent ulcer, and two small epitheliomata to heal over, and that these former ulcerated areas may become firm white scar tissue which gives them every appearance as though they were healed, and in one case of a very extensive lupus vulgaris it has produced such marked improvement that the case may reasonably be considered as healed.

4. That the rays of radium have caused the firm, rough scar tissue in two cases of old lupoid scars to become soft and pliable, and therefore are not as disfiguring.

5. These effects of radium have been very rapid considering the usual intractability of this class of diseases and considering that in all cases various therapeutic measures and means have been tried repeatedly with little or no effect.

6. What is of very great practical value if radium has a therapeutic use, namely, these results have been obtained with tubes of radium of low activity costing but a few dollars, while it was supposed that only radium of high or very high activity, costing several hundred dollars a tube, possessed any therapeutic properties.

7. The treatment in none of these cases was commenced longer than six months ago, and while four of these cases have remained healed for a period of three months, yet many months, or even years, must elapse to see whether the disease will not reassert itse'f again before the same can be pronounced as cured. And if after a lapse of several years cases of lupus, rodent ulcer or epithelioma treated by the aid of radium remain cured, then radium is only to be classed with the Finsen light and the X-rays as one of the therapeutic agents in the treatment of lupus, and with the X-rays and surgery as one of the methods in the treatment of small epithelioma and rodent ulcers.

8. In the two figures of the false joint of the ulna is seen a very good example of the comparative value of radium and X-rays in the examination of bones directly. The X-ray is a three-minute exposure, while the radium picture is a one-week exposure, from which can be concluded that the X-rays show far greater differentiation between the bone and connective tissue than does radium, and since it requires at least several hours for the radium rays to penetrate the flesh it would therefore be impracticable to use radium for making skiagraphs.

9. The conclusions drawn from nearly one hundred experiments give positive proof that while suspending tubes of radium of various strength for long periods in various solutions and various powders, that neither these solutions nor the powders are capable of affecting photographic plates, and are therefore not rendered radio-active, and therefore neither the solution nor the powders are rendered radio-active and can in no way affect the metabolism or pathology of living organisms.

(NOTE.—The author kindly solicits all monographs on this subject.)

Tuberculous Testicle and the X-Ray.

W. B. De Garmo (*Medical Record*, April 15, 1905) reports the case of a man of fifty-six years who shortly after having one testicle removed for tuberculous disease developed a similar condition in the other organ. As he was unwilling to have the operation repeated, X-ray treatment was tried. One hundred and twenty-six treatments of ten minutes each were given between November 3, 1902, and September 14, 1903. A medium tube was used at a distance of about ten inches. The first application relieved the pain. The swelling and tenderness also gradually subsided until at the time of the last treatment the testicle was apparently of normal size and in normal condition.

H. A. I.

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

Meeting of April 17, 1905.

THE PRESIDENT, MAGNUS A. TATE, M.D., IN THE CHAIR.

STEPHEN E. COHN, M.D., SECRETARY.

Patient with Tuberculosis of Elbow Joint.

DR. A. H. FREIBERG: I present this case this evening, not because of anything particularly unusual, but because I think it presents several points of great interest, and also because it is instructive. I operated upon this woman a year ago last Christmas at the Jewish Hospital for extensive tuberculosis of the right elbow. She had had tuberculosis of the elbow for three years before coming to this country. She came here from Russia. The disease was very extensive at the time when I first saw her. All efforts at conservative treatment failed to achieve any good results, as was to be expected, because of the extensive character of the disease. Hence, the operation of resection was done. This had to be very extensive; a great deal of the bone had to be taken away. We had to go far up on the humerus and quite far on to the bones of the forearm in order to get sound tissue. Care was taken to preserve the muscular attachments to the periosteum. The healing of the wound took place fairly promptly and the woman passed from our observation for awhile, but returned the beginning of this past winter because the wound had broken down. During the time that she was not under our observation she went about her ordinary duties. When she returned there was a cavity present into which you could easily stick your thumb. This cavity did not lead down to the bone, and instead of instituting any operative procedure I simply cleaned it out and dressed it in the ordinary manner. I then began the use of the congestion treatment (passive hyperemia), using the elastic bandage according to Bier. She received one treatment a day lasting an hour, and afterwards an hour and a half. It was remarkable how quickly this cavity, which was manifestly tuberculous in character, healed up, and has remained well. I bring her before you this evening to show you what an excellent arm she has, which, although with its flail-like character, she is able to use for all purposes. The strength in the hand is about normal, and she is able to execute every movement normally possible to the forearm.

Renal Calculus Removed from Ureter.

DR. JOS. RANSOHOFF: I have here a stone which I removed from the ureter on last Friday. Briefly the history is this. Patient male, thirty-six or thirty-seven years of age, had difficulty with his urinary apparatus, most of the symptoms, he told me, being on the part of the bladder. The pain from which he suffered was in the region of the left kidney. The man was able to do his work fairly well, except at long intervals, when he would be laid up for a day or two. For the last six or seven weeks, Dr. Greiwe tells me, he has been confined to his bed for a good part of the time with pyelitis. Under the doctor's treatment the pyelitis was reduced to such an extent that when he was examined by me there was hardly any pyuria present, and that only microscopically, with some hematuria. On examination there was a marked tenderness in the last costo-vertebral angle, as though a stone were presenting in the kidney, and pressure over a point on the left side corresponding to McBurney's point on the right side elicited a good deal of tenderness. We took three X-ray pictures of this patient, and, although not one of them could be said to be a good plate, yet everyone of them showed very distinctly in precisely the same place a shadow of an oblong body. From the shadows we expected to find the stone in the lower pole of the kidney, but the stone was lower down in the ureter. The operation was done last Friday, and after exposing the kidney and delivering it into the wound we found it to be practically normal. It showed no hardness in the pelvis by external examination, so we did not cut into it. We then began the search for the stone, and remembering that it seemed to be located rather low from the X-ray pictures, we exposed the ureter and there found this calculus, which weighs thirty-one grains. The outer part of it is phosphatic in character; what the inner part is I do not know. The stone was firmly imbedded in the ureter about two and a half or three inches below the hylus, just where the ureter has a slight constriction and where impaction would take place. If you examine this stone you will find a little channel on its surface through which the urine could pass by dribbles down into the bladder. Since the operation the patient has done remarkably well. There is some blood in the urine, so I know the calibre of the ureter is gradually being restored. The interesting fact about this case is that, although we did not get a perfect picture, or even a very good picture, of the stone in any one of the three attempts made, yet each one showed a shadow in exactly the same place.

A Case of Acute Mastoiditis, Complicated by Facial Paralysis and Osteo-Phlebitic Pyemia.

DR. SAMUEL IGLAUER: I present this little patient to you because of certain peculiar complications which ensued in the course of an acute mastoiditis. The patient, who is six years old, presented himself at the clinic of the Ohio Medical College on the 31st of January. According to the statement of his mother, he had a running ear for ten days, which had been preceded by earache. About a week before bringing him to the clinic the mother noticed that one side of his face was drawn to one side, the angle of the mouth being lower on the left side than on the right, and he could not close his eye on that side. At the time he came to the clinic there was a profuse discharge from the ear, the auricle stood away from the side of the head, and there was marked tenderness and swelling back of the ear. The head was held in a rigid position; he could not easily rotate it towards the left side. The diagnosis was acute mastoiditis, with facial paralysis, with the possibility of there being a beginning meningitis. owing to the rigidity of the neck muscles. The boy was sent to the Good Samaritan Hospital, and operated upon the next day. At the time of operation we found that the cells of mastoid portion were exceedingly numerous, and extended not only down towards the tip, but also far above the attic, an exceedingly rare condition in young children, in whom the mastoid cells are not well developed until a much later age. There was a great deal of pus and necrotic tissue in the mastoid cells. These were thoroughly cleaned out, a radical mastoid being performed. The sigmoid sinus was exposed but not opened. Dr. S. C. Ayres was kind enough to be present and Dr. W. Mithoefer assisted in the operation. After the operation the boy went along pretty well for a few days, but at the end of a week the temperature commenced to rise, going up to 102°-103° in the evening, in the morning being normal. This continued for awhile, and at the end of about two weeks a small abscess developed at the point of the elbow. This was opened and free drainage given, healing taking place rapidly. The fever kept on continuously, however, and at the end of a month it began to range a little higher than it had in the beginning. He had chills, fevers and sweats, no medication having any effect upon him. The boy complained of severe pain in the temporal region. He had dreams of all sorts, night terrors, and was gradually going down hill. There was also a good deal of tenderness below the mastoid, where the lymphatic glands were enlarged, and apparently there was tenderness along the course of the jugular vein. These conditions made a secondary explorative operation imperative. Under gas-ether anesthesia the middle fossa was exposed to look for an extra-dural abscess, but none was present. Enlarging the opening, I examined the sinus exposed during the first operation. It did not pulsate; no clots were to be palpated in the sinus. At the suggestion of Dr. C. R. Holmes, who was kind enough to be present, I introduced an aspirating needle, and drew out blood, but no pus. A further exploration showed immediately back of the course of the facial nerve an aberrant and very large cell in the bone. This I cleaned out and in addition the cells at the root of the zygoma. I also removed what remained of the mastoid tip. From that time the boy began to improve, and gradually recovered. However, at the end of three or four weeks after the second operation he developed another abscess in the muscles of the supra-spinous fossa of the right shoulder. This abscess was incised. a small quantity of pus being found abo one and a half inches below the surface. The facial paralysis improved by degrees, until at the present time, which is about sixty days since the original operation, the boy is able to close his eye. He can move the muscles of his mouth, although there is still some paralysis present. One of the interesting symptoms noted as the nerve recovered was a brassy taste when the chorda tympani was touched.

The point I wish to emphasize is that in this case we had a pyemia without involvement of the lateral sinus. There has been a good deal of dispute as to whether we can have such a condition. Koerner described what he terms an osteo-phlebitic pyemia, and distinguishes between this and the pyemia of sinus therombosis on the following grounds: In osteo-phlebitic pyemia the fever does not run as high, the chills are not as intense, and, what is more remarkable, metastatic abscesses do not, as a rule, involve the lungs, but involve the superficial parts of the body, muscles, skin and the joints. This patient presented this picture: He has had metastatic abscesses in the skin over the elbow and in the muscles of the shoulder. At one time he complained of severe pain in the shoulder joint itself. Koerner explains these on the theory that the emboli which form in the thrombi in the small veins of the bone are so diminutive in size as to be able to traverse the lungs and thus lodge in the peripheral parts of the body, while the emboli of sinus thrombosis are of sufficient size to produce infarcts in the lungs. It is rather important to distinguish between these two forms, and I present the patient on this account.

Hydrocystic Adenoma of the Skin.

Dr. M. L. Heidingsfeld: I beg to present this patient this evening, first, because of its exceeding rare character, and secondly, because the histologic examination reveals a very unusual condition, which, as far as my examination into the literature permits, is thus far without a parallel. The patient is a full-blooded negro, aged twenty-three years, and states that the several hundred or more small, discrete tumors which are symmetrically scattered over his abdomen, chest and neck have been present to some extent from birth, but have steadily multiplied in number, and have gradually increased in size so that the smallest and more recent lesions are scarcely larger than a pin head, and the larger and longer standing ones are about the size of a pea. They are firm, non-sensitive, and are apparently situated in the deeper layers of the cutis, with which they are intimately associated, but above the layer of subcutaneous fat. The condition was clinically diagnosed multiple hydrocystic adenoma of the skin, and closely resembles some of those rare cases described in the literature, notably Thimm's (*Arch f.Derm. u.Syph.*, March, 1904). The histological examination is unique in that it reveals the cysts to be of a sebaceous or dermoid character, and contain a mass of involuted hair, not at all dissimilar to what is frequently encountered in ovarian dermoids. This interesting discovery sheds much additional light upon the obscure etiology of these and many other neoplasms of the skin, and gives confirmation to their congenital origin. Other features of unique interest are its occurrence in a negro, and the fact that his mother, from the patient's statement, has a similar affection.

THE CINCINNATI SOCIETY FOR MEDICAL RESEARCH.

Samuel Iglauer, M.D., President.

J. Henry Schroeder, M.D., Secretary.

The society held its regular meeting in the laboratory of the Cincinnati Hospital, April 20, 1905, and the following programme was presented:

1. "Cholelithiasis Complicating Typhoid Fever," by Dr. S. P. Kramer. The author found within the biliary calculi bacilli which, morphologically and biologically, were identical with the typhoid bacillus.
2. "Demonstration of Filaria Loa," by Dr. D. T. Vail. The author presented specimens of the parasite indigenous to certain regions of Africa.
3. Dr. Carl Hiller presented specimens of the *Diplococcus Intracellularis Meningitidis*.

The papers and demonstrations were exceedingly interesting, and gave rise to interesting discussion. They will be published in full in the Lancet Clinic.

Passiflora has been used with good results in paralysis agitans, restraining the disease for many years.—*Med. Summary.*

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, MAY 13, 1905.

A NATIONAL ANTI-SMOKE CONVENTION.

Cincinnati, in her annual spring house-cleaning, is devoting attention not only to promiscuous expectorators and ill-kept dairies, but to possible means of ridding the city of soot and smoke as well. There can be no doubt in the minds of thinking people that the prevalence of the latter evil is as detrimental to the public health as either of the two former, and therefore becomes a matter for public attention. Every intelligent physician, and especially those who devote particular attention to diseases of the respiratory tract, will testify that the great prevalence of catarrhal diseases in our city is due, more than to any other cause, to the dust and smoke with which the atmosphere is laden, and we all know that one of the most important of the predisposing causes of lung tuberculosis is this very catarrh. Aside from the sanitary, and, indeed, the moral aspects of the question, we must also take into consideration what has been tritely called "the ethics of the air." Dr. C. A. L. Reed, in a recent address, has in this connection made the following statements, the logic of which is difficult to gainsay:

"Air is necessary to existence. This being true, to breathe pure air must be reckoned among man's inalienable rights. No man has any more right to contaminate the air we breathe than he has to defile the water we drink. No man has any more moral right to throw soot into our parlors than he has to dump ashes into our bed-rooms. No man has any more right to vitiate the air that sustains us than he has to adulterate the food that nourishes us. Poison taken into the body through the lungs is just as much a poison as is some other poison swallowed into the stomach. Poisonous air is probably more disastrous to infants than is adulterated milk. A man's proprietorship extends as distinctly into the air above him as into the earth beneath him. If every man is entitled to the ground he stands upon, so he is entitled to the air that envelops him."

Recognizing the dangers, to say nothing of the damage caused to fabrics of all kinds by the smoke nuisance, many cities passed ordinances designed to limit or prevent the evil. Cincinnati, in May, 1903, provided an ordinance of this kind, which appointed a supervising engineer as a part of the city government. We cannot see that there has been any marked diminution in the amount of smoke, quite the contrary; the nuisance has increased with the increase of industrial activity. That is the secret of the non-enforcement of laws designed for maintaining the cleanliness, and consequently the health of our larger cities; there is constant rivalry, attempts to induce manufacturers of all kinds to move or locate in growing towns, and a consequent unwillingness to place upon them any apparently unnecessary hardship. Insistence upon establishment of smoke-consumers would be regarded in that light, and possibly prevent the importation of some few industries.

It has been well said that "smoke is not a mark of industrial activity, but of industrial stupidity." It is estimated that by the absence of smoke-consumers or of a reliable system of stoking, from 15 to 25 per cent. of the fuel is wasted. Many firms that have adopted the new system state that the saving in fuel during the first year has more than paid for the cost of the smoke-consuming outfit. Nevertheless, it can readily be understood that in view of this rivalry of cities, no movement can hope for much success unless it becomes national in scope. Dr. Reed therefore suggests that a national anti-smoke convention should be called in the near future. Such a convention, he thinks, should represent all the various interests concerned. The question has many aspects, scientific, economic, legislative, administrative, sanitary, domestic and individual, and all these phases should be discussed by competent authorities. There should be delegates from city governments, women's clubs, medical and public-health societies, from institutes of engineering and architecture, all manufacturers' clubs, mercantile bodies, trade unions, "and from every organization and corporation possessing either a direct or contingent interest in the solution of the problem." Of paramount importance in a movement is the support of the public press. With all these interests working together, some progress should soon be made in eliminating this danger and bugbear of American city life.

EDITORIAL NOTES.

At the Academy of Medicine, Monday evening, May 8, the following letter was adopted and sent to Dr. M. Cassat in acknowledgment and acceptance of the generous gift made to the Academy a short time ago:

CINCINNATI, May 8, 1905.

DR. M. CASSAT.

Dear Doctor: To give away treasures which have come to us without effort on our part is said to be easy, but to give that which is ours as the result of years of labor and earnest and wise discrimination, the loved and cherished objects of our life's work, requires courage, generosity and love for our fellow-men which is vouchsafed to few of us.

The accumulation of a library such as you have given to us demands not only knowledge of the work, but long and patient search and research. Like old paintings, many of these cannot be duplicated; hence, are priceless treasures. We know there are to-day, in this city, works of great value hidden away in private libraries, many of which will be lost. It has been reserved for you to give to this Academy that which is of more value than houses or lands.

If it shall stimulate others to aid in securing a suitable home for the Academy and its library, it will be an added blessing to the profession, but cannot add to the lustre of your benefaction to us.

You have earned our lasting gratitude, and will receive it.

A. G. DRURY,
J. C. CULBERTSON,
ARCH. I. CARSON,
Committee.

DR. WILLIAM GILLESPIE will read a paper before the Academy of Medicine, Monday evening, May 15, on "Maternal Diet with the Object of Lessening the Bony Development of the Fetus."

REPORT of the Bureau of Infectious and Contagious Diseases for the week ending May 5, 1905:

Disease.	Cases.	Deaths.
Measles	6	1
Diphtheria	1	0
Scarlet Fever	16	2
Typhoid Fever	10	1
Phthisis Pulmonalis	18	21
Pertussis	26	3
Varicella	5	0
Smallpox	8	0
Cerebro-spinal Meningitis	5	3
Mumps	1	0
Erysipelas	2	0

Molluscum Fibrosum.

Merk (*Arch. f. Derm. u. Syph.*, Vol. 73) reports a case of molluscum fibrosum which showed pathologic changes in the adrenal glands. One of the organs was enlarged and the border between the cortex and medullary portion of the gland was ill defined. Cellular changes and degenerations were likewise observed.

A WRITER says that echinacea given in smallpox lessens the aching and shortens the febrile period, and beyond question robs the stage of pustulation of its frightful consequences.—*Med. Summary.*

The Lancet-Clinic

A Weekly Journal of Medicine and Surgery.

MARK A. BROWN, M.D., EDITOR. FRANK B. CROSS, M.D., MANAGING EDITOR.
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NEW SERIES VOL. LIV. MAY 20, 1905. WHOLE VOLUME LXXXXIII.

OTITIC BRAIN ABSCESS—REPORT OF TWO CASES—OBSERVATIONS CONCERNING THE DISEASE.*

BY GEORGE F. KEIPER, A.M., M.D.,
LA FAYETTE, IND.,
Eye and Ear Surgeon to St. Elizabeth Hospital, St. Joseph Orphan Asylum, Children's Home, Indiana State Soldier's Home; Lecturer on the Eye and Ear at Training Schools for Nurses at St. Elizabeth Hospital and Indiana State Soldiers' Home, Etc., Etc.

CASE I.

On July 12, 1903, Mrs. C. B., housewife, aged twenty-six, came to my office to consult me for inflammation of the right mastoid process. She had had the trouble for a month and had applied continuously an ice-bag to the process for the trouble. She was suffering intense pain in the process, which radiated all over the head. Examination showed the right ear to be discharging pus profusely. After cleansing and drying the ear the posterior superior wall of the external auditory meatus was bulging or sagging much, hiding over one-half of the membrana tympani from view. There was a large perforation of the tympanic membrane inferiorly and posteriorly. The mastoid process was very tender to pressure and percussion. The temperature was 99° F., and the pulse was 80. Percussion, according to MacEwen's suggestion, showed the bone cavities filled with pus. Her general condition was poor. Her strength was being rapidly impaired by her nursing baby. Her appetite was poor. She was urged to enter a hospital for treatment, but hesitated. The ice-bag was replaced by heat applied continuously in the Japanese pocket stove over the mastoid. The relief to pain was marked, though not complete, the mastoid remaining tender to the touch and percussion. The ear was syringed with water as hot as the back of the hand could stand, and, being dried out, was insufflated well with boric-acid powder. The powder was held in place by a pledget of absorbent cotton. The syringing was repeated as often as the pus appeared upon the cotton. A calomel purge was given and she was advised to wean the baby. She was dosed with one-half grain of calomel with three grains of quinine every three hours until the bowels moved thoroughly. Six doses were thus required. She entered the Home Hospital of this city July 17. The trips to the city daily were telling upon her strength, for she lived seven miles away. Preparations were made for weaning the baby. They were successfully accomplished. Her breasts were massaged with camphorated oil and bandaged. The treatment to the head and ear was continued as before. July 18 found her about the same, all the treatment of the previous day being followed faithfully. She became very nervous and excitable and complained of feeling fainty. Operation upon the mastoid was advised, to which consent was given. The same evening she was prepared for operation the following morning. The head was shaved for three inches around the site of the proposed wound in the skin. The bowels were thoroughly emptied and she was thoroughly bathed, the hair and skin about the ear being rendered aseptic.

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* Read before the Mississippi Valley Medical Association, at Cincinnati, October 11-13, 1904.

The next morning at 8:30, with the assistance of Drs. Throckmorton, McBride, Westfall and Sickler, we operated for mastoid abscess without suspecting brain abscess. After clearing the bone a half-inch trephine was applied over the seat of the antrum. A couple of turns sufficed to show that the bone beneath the cortex was very necrotic. The button of bone made by the trephine was knocked loose by the chisel and mallet. Pus in great quantity immediately welled up. With the sharp spoons, gouge and rongeur the débris was all cleared away, removing the anterior portion of the mastoid tip at the same time. We walled off the wound thus made and proceeded to investigate the tegmen antri, which was necrotic. The removal of this caused pus to flow from the brain cavity. Removal of all the dead bone enabled me to explore the cavity with my little finger. The cavity was large enough to easily take the little finger. This involved the temporosphenoidal lobe right over the tegmen antri. The cavity was dry cleansed thoroughly and a decalcified bone drainage-tube inserted. The wound in the mastoid was packed gently with sterile gauze, dressed and bandaged and the patient returned to her bed. The temperature at 9:45 A.M. was 99° F. The pulse was 150 and bad. A hypodermic of strychnia sulphate ($^1/_{60}$ grain) was given, which was repeated in one-half hour. The pulse perceptibly improved. Because she complained of much pain a hypodermic containing morphine sulphate gr. $\frac{1}{8}$ and atropia sulphate gr. $^1/_{200}$ was given. At 10:40 A.M. a pint of normal saline solution was thrown into the rectum. This was retained. The patient became quiet, and at 11:20 was sleeping. The pulse keeping high, the rectal injections of normal saline solution were repeated at 12:30 P.M., 3:25 P.M., 6 P.M., and 8 P.M. The pulse became regular and less rapid. Massage of the breasts was continued, with such other treatment as seemed necessary.

July 21 the wound was redressed, the temperature and pulse being practically normal. On July 22, because of continued headache, the dressings were removed and the tube was removed from the brain cavity. Its removal was followed by a gush of pus from the brain, relieving the headache immediately. The drainage-tube was obstructed. It was cleansed and replaced. Whenever hereafter our patient complained of much headache we knew the trouble to be due to obstruction to the flow of pus, relieving which, we relieved the headache.

The temperature during all this time was never above 99.4° F. save on the 24th and 27th, when it reached 102° by the axilla. This was reduced by cleaning out the bowels by a good calomel purge.

At a visit soon hereafter I found our patient considerably disturbed mentally because of a death at the hospital. She had seen a hearse drive up for the remains, and she told me it was a bad sign and it meant evil for her. I told her it was a good sign—that is, a good sign for the undertaker—for it meant that he was doing business. She smiled and the mental depression ceased.

To keep the brain cavity clear of pus we were compelled to abandon all tubes for drainage and rely upon wicks of sterile gauze introduced to the depth of the abscess cavity. Even then the wound in the dura mater attempted to close before the walls of the abscess cavity had grown together, necessitating enlarging the opening in the dura by artery forceps introduced closed and opened in the cavity and pulled out open, to tear the wound in the dura mater larger.

Notwithstanding the fact that she was nursing a small baby, which drew rapidly on her strength, and notwithstanding we were compelled to wean the baby and to cause absorption of the milk within her breasts, we had a very prompt and splendid recovery. She has remained well up to the present writing, and has long ago resumed her place in the household, doing a full day's work daily.

The writer desires to contrast this case with one reported at the Section of Laryngology and Otology of the American Medical Association in 1902, at Saratoga, New York. In that one there was abscess of the left temporo-sphenoidal lobe with aphasia, which made easy diagnosis of abscess of the temporo-sphenoidal lobe. In this case no aphasia was present, though the pus cavity was large. No symptoms of brain abscess were present, and as a result no trouble with the brain was suspected. Hence, it behooves the surgeon operating for mastoiditis to be prepared to enter the cranial cavity should necessity arise for such procedure. Diagnosis of abscess of the right temporo-sphenoidal lobe is often exceedingly difficult.

CASE II.

Dennis K., news agent on railroad, unmarried, aged about thirty. Through the courtesy of Dr. Charles Hupe I was asked to see this patient. At the time of my arrival we found that he had had fifty convulsions for the previous twenty-four hours, and had been unconscious for forty-eight hours. Many times he assumed opisthotonos. The history of the case shows involvment of the left mastoid process, with recurring purulent discharge from that ear for a number of years. Previous to this illness he had symptoms of his former trouble. A few days before our visit he had come home in a dazed condition, answering questions and talking incoherently. He went to bed and finally sank into the condition in which we found him. We could get no subjective signs. We had to depend upon objective symptoms. Examination of the ears was negative save for perforation of the drum of the left ear, posteriorly and inferiorly. With the history and present condition it seemed to be abscess of the left temporo-sphenoidal lobe. The family was informed of the gravity of his condition and operation was proposed, with the distinct understanding that the chances for recovery were very slim. They asked if the operation might not relieve the very distressful condition in which he was, and, though it did not save his life, would give him an euthanasia. Of course, we could not promise even that, though probable. We left the family to think it over. We left them at five o'clock in the afternoon. The family consented and we had him removed to St. Elizabeth Hospital, where, at eight o'clock, with the assistance of Drs. Hupe, Throckmorton, Levering, Bartholomew, Beasley and Westfall, we opened the left mastoid process, finding it sclerotic. The opening thus made was continued upward, uncovering the dura mater, which bulged into the large opening thus made. This was freely incised, letting out considerable serum and flocculi of necrotic brain tissue. Exploration in various directions revealed no further trouble apparently. After draining and dressing the cavity, the patient was put to bed at 9:30 P.M. Before morning he had two mild convulsions, which were the only two he had after the operation and prior to his death, forty-eight hours later. By evening of the same day he regained partial consciousness, and apparently was able to recognize his family, though unable to converse with them. He remained in this condition until six o'clock in the afternoon of the next day, when he passed peaceably and quietly away. A post-mortem was requested, to which consent was given. We held it at eight o'clock the same evening. The body was well nourished and to all appearances normal. We opened the skull, and while engaged in sawing the bone a considerable quantity of fluid escaped from the skull cavity. When the skull-cap was removed we found a diffuse leptomeningitis. In the temporo-sphenoidal lobe was a cavity capable of holding three or four drachms of such matter as was removed during the operation. Search for multiple abscesses failed to reveal any.

CONSIDERATION OF OTITIC BRAIN ABSCESS IN GENERAL.

ETIOLOGY.

Frequency of Brain Abscess.— Pitt (*British Medical Journal*, 1890, Vol. i, pages 643–771–827) reports 57 abscesses of the brain in 9,000 autopsies in the various

London hospitals. Out of 6,000 autopsies Trietal reports 21.

When due to ear trouble Körner reports as follows:

Age.	Total Population.	Total Deaths.
0–10	7,110,695	371,323
10–20	5,726 644	26,130
20–30	4,625,908	33,516
30–40	3,546,465	247,621
Unknown	2,527	
	28,518,470	716,859

All Deaths from Otitic Brain Abscess.

Age.	Deaths.	Per 1,000.	Per Cent. of All.
0–10	811	1.14	0.22
10–20	1,346	2.35	5.15
20–30	1,291	2.79	3.85
30–40	536	0.72	0.22
	4,537		

The above table shows of all deaths 6.33 out of every 1;000 die of otitic brain abscess. No age is exempt.

Gowers gives the following table:

1 to 9 years	24 cases.
10 to 19 years	48 cases.
20 to 29 years	72 cases.
30 to 39 years	29 cases.
40 to 49 years	26 cases.
50 to 59 years	16 cases.
60 to 69 years	7 cases.
70 years and over	1 case.

Bürkner (*Arch. f. Ohrenh.*, xx, p. 81) reports 104 deaths in 33,107 ear cases. Randall (Transactions Am. Otol. Society, Vol. v, p. 101) reports 15 cases in 5,000. Schwatze (*Arch. f. Ohrenh.*, xxi, p. 221), 30 deaths in 8,425 cases of disease of the middle ear.

Gruber (*Arch. f. Ohrenh.*, xxv, p. 401) found 232 deaths from intra-cranial disease in 40,073 autopsies. Körner (in *Die Otitischen Erkrankungen des Hirn*, *der Hirnhaute und der Blutleiter*, S. 3) reports 115 autopsies in which cerebral abscess was present 43 times, sinus phlebitis and pyemia 41 times, and simple meningitis in 31 cases.

All these reports are based upon hospital records, where the majority of these cases is not to be found. We may well double our figures as to mortality from intra-cranial affections due to ear disease and yet fall short of the true status of affairs.

Men suffer more frequently than women in the proportion of three to one.

The mode of invasion from the middle ear and mastoid antrum is usually through the tegmen antri, which is very thin, often as thin as paper. Again, there may be gaps in the bone through which infection may take place, and in very young children infection may gain access to the brain cavity through open sutures between the bones. Communicating veins which may have become thrombosed may be the carriers of infection, as well as extensions of dura mater into the antrum, and lastly through the labyrinth of the ear. The writer would mention as a frequent predisposing cause in the unwarranted prolonged use of the ice-bag over the inflamed mastoid process. Some of the worst cases operated on by him have had their origin thus.

PATHOLOGY.

With regard to the organism involved, according to MacEwen the same organism may cause several intra-cranial lesions, the incidence of the attack being determined by the pathological condition of the part and the degree of resistance of the invaded tissues. The streptococcus pyogenes and the staphylococcus pyogenes aureus, and occasionally the pneumococcus, staphylococcus pyogenes albus and citreus are found in the discharge. Very rarely Friedlander's pneumococcus has been found.

With regard to location, Körner observed 150 cases and located 62 in the temporo-sphenoidal lobe, 31 in the cerebellum, and 6 in both parts of the brain simultaneously, the seat of the abscess being usually over the tegmen tympani or antri.

With regard to size, this varies, sometimes being as large as a goose egg. In one of the cases reported at the Saratoga meeting of the American Medical Association by the writer the whole temporo-sphenoidal lobe and adjacent structures were involved in the purulent process. The other had an abscess as large as a hen's egg.

With regard to encapsulation of the abscess, MacEwen ("Pyogenic Diseases of the Brain and Spinal Cord," p. 108) reports encapsulation of an abscess in which the contents were of a pale straw color, with a heavy odor, though the peripheral abscess was slightly offensive. When poured into a narrow glass vessel the contents separated into two portions; the upper two-thirds was a cloudy serous fluid and the remainder was an opaque mass of muddy yellow color. For such an event to take place, continues MacEwen, disintegration must cease and the brain tissue must possess sufficient vitality to make the capsule, which necessarily must be of low vitality. In the case reported by MacEwen the capsule could be split into two or three layers, the inner being one millimeter in thickness. The walls varied from two to five millimeters in thickness. He describes a portion of the wall removed for microscopical examination. "To the naked eye it appeared to be of a soft pulpy nature; it easily crumbled and imparted a somewhat unctious sensation to the fingers. On microscopical examination it was seen to consist of masses of round cells, a few blood channels of the most rudimentary type confined to the layer of tissue nearest to the brain, and here and there interspersed throughout the uppermost layers, spindle cells in bundles. There was no distinct layer of connective tissue." The time required for the capsule to form is from three to thirteen weeks, according to Gull, Huguenin, Schott and Lebert.

According to Pollitzer, Hessler found thirty-two cases out of forty-nine to show encapsulation; of thirteen which arose after an acute middle ear suppuration, five were encapsulated.

SYMPTOMS.

We may say at the outset that very often the symptoms of otitic brain abscess are very obscure, the presence of abscess not even being suspected, especially should it occur in the right side of the brain. There may be no fever, no rapid pulse, nor headache. Ofttimes the abscess of the brain is discovered accidentally while operating for mastoiditis, as in Case I reported in this paper. Because of this fact one operating for mastoiditis should be prepared to enter the cranium if necessary to evacuate an abscess located there.

Pollitzer, quoting Von Bergmann, recognizes three clinical types of otitic brain abscess:

"I. *Symptoms of the Suppuration:* Paroxysms of fever, rigors, general exhaustion and weakness, reduction of the general state of the patient, anorexia and disturbances of digestion, persistent increase in the temperature in the region of the abscess (Broca), often circumscribed tenderness on percussion in corresponding parietal and temporal regions (Toynbee, Ferrier, Horsley, Moos, Barker, MacEwen, Pollitzer and others).

"II. *Symptoms of Increased Pressure:* Headaches, dizziness, vomiting, loss of memory, delirium, strabismus, disturbances of speech and vision, slow pulse, optic neuritis, changes in size of pupils, stupidity, apathy, somnolence, Cheyne-Stokes' respiration and eclamptic attacks.

"III. *Occasional Local Symptoms in Brain Abscess:* Word deafness (Ferrier, Horsley, Pollitzer), optic aphasia (Oppenheim), disturbances of speech, paralysis of motor oculi nerve.

"Cerebellar abscesses may give rise to the following: Rigors, dizziness, vomiting, dysarthria, dysphagia, paralysis facial nerve, mechanical yawning, lockjaw, paralysis of abducens nerve, nystagmus, choked disc, ptosis, glycosuria, paresthesia in extremities, absence of patellar reflex, general hyperesthesia, disorders of bladder, torticollis, ataxia, paralysis of arm and side on side of lesion."

DIAGNOSIS.

It is necessary to differentiate between mastoiditis, infective sigmoid sinus thrombosis, lepto- and pachymeningitis, encephalitis, brain tumor, cavernous sinus thrombosis and infective systemic poisoning. A chart giving symptoms comparatively of some of these diseases is herewith submitted.

As already stated, the diagnosis may be very difficult to make. The first case reported represents a type in which, with a fair-sized abscess of the brain, no symptoms were present except such as may be expected from mastoiditis.

From Mastoiditis.—Most all otitic brain abscess cases, of course, have their origin in a mastoid abscess working its way through the tegmen antri in various ways. The severe frontal headache, the slow pulse, slow cerebration, giddiness, aphasia, optic neuritis, contracted pupils, photophobia and marked emaciation, are sufficient, when present, to distinguish the disease from mastoiditis.

From Encephalitis.—The elevated temperature, rapid pulse, Cheyne Stokes' respiration, anorexia, great thirst, loss of appetite, retracted abdomen, delirium, irritability, extreme restlessness, local

CHART SHOWING COMPARATIVE SYMPTOMS OF DISEASES OF THE MASTOID PROCESS AND ADJACENT STRUCTURES (*Keiper*).

SYMPTOMS.	MASTOIDITIS.	CEREBRAL ABSCESS.	SIGMOID SINUS THROMBOSIS.	LEPTO- AND PACHY-MENINGITIS.	CAVERNOUS SINUS THROMBOSIS.	BRAIN TUMOR.	CEREBELLAR ABSCESS.
Pain in ear	Marked, with swelling of posterior superior wall auditory meatus.	Usually severe					
Pain in head	Mastoid tender to percussion and pressure.	Often frontal and very severe. Tenderness on percussion over seat of abscess.	Tenderness over mastoid and sigmoid sinus.	Rarely absent; early and severe.	Cephalalgia in one or all branches of fifth nerve.	Present and persistent, with marked exacerbations.	Intense pain in occiput. Sometimes increased by percussion.
Temperature	Normal or but slightly elevated. Increased on mastoid.	Rarely elevated except *in extremis*. Persistent increase over region of abscess (Broca).	Very high. Fluctuating rapidly.	Elevated. Flushing of face.	Elevated.		Subnormal
Pulse	Normal	Slow	Rapid. Fluctuating	Rapid	Rapid.		Slow, when large.
Respiration	Normal	Slow. Cheyne-Stokes respiration.	Rapid	Rapid. Cheyne-Stokes.	Accelerated		Slow.
Vomiting	None	Often present in the first stages.	In early stages	Rarely absent		Often projectile	Nausea and vomiting marked.
Digestive system	Constipation. Tongue may be coated.	Constipation. Tongue coated. Breath offensive.	Diarrhea. Severe abdominal pains. Tongue dry and coated. May simulate typhoid.	Great thirst. Loss of appetite. Abdomen retracted.			
Mentality	Normal	Cerebration may be slow.	Normal	Delirium. Irritability. Extreme restlessness.		Mental dullness & slowness. Weakened memory and power of attention.	
Drowsiness	None	After week of pain	None except in the last stages.				
Shivering	None	Usually present	Rigors are frequent and severe, with perspiration.	Generally present, but not so marked as in sinus thrombosis.			
Giddiness	None	Often	Sometimes observed	In early stages		Vertigo	
Local Rigidities	None	May be present	Convulsions may be local or general.	Convulsions, localized and general, often observed. Head retracted.		Convulsions, local and general. Focal symptoms depending upon part affected.	Torticollis present.
Aphasia	None	Sometimes present if involvement is on the left side.	Not observed	None		Speech disturbances, running words and letters together.	Syllabic speech.
Coma	None	In last stages	In last stages	In last stages			
Ocular apparatus	Normal	Photophobia. Pupils contracted. Optic neuritis. Strabismus.	Choked disk	Pupils sluggish. Optic neuritis.	Exophth'lmos Edema of lids and nose. Chemosis. Ptosis. Strabismus. Pupillary myosis. Choked disk.	Optic neuritis, intense slow involvement of cranial nerves. Blindness. Rare in tumors of medulla.	Varying width of pupils, wider on abscess side. Conjugate deviation of eyeballs toward affected side. Horizontal nystagmus. Choked disk. Paralysis sixth nerve on side diseased ear. Ptosis.
Discharge from ear	Usually purulent	Often present	Often present				
Auditory canal	Bulging or sagging of posterior supe'r wall. Lumen narrowed.	May show no changes	May show no changes				

CHART SHOWING COMPARATIVE SYMPTOMS OF DISEASES OF THE MASTOID, ETC.—*Continued.*

Appearance mastoid	Swollen over it. Ear stands out from head.	May show no changes	May show no changes				
Emaciation	None	Marked. Rapid and progressive.	May be present, with marked asthenia.	None		Weakness and emaciation after vomiting.	Muscular weakness, especially of arm. Brachio-crural paralysis.
Pulmonary symptoms	None	None	Often present. Due to infarcts. Prune-juice expectoration.	None			
Facial paralysis	May be present		Sometimes present	Paralysis third, fourth and sixth nerves.			Present.
Blood count	White cells increased in number.	White cells increased in number.	White cells markedly increased in number.				
Other symptoms			Thrombosis of internal jugular vein.		Swelling in pharyngeal tonsil.	For prolonged periods the symptoms lessen. Paresthesia. Paralysis. Apoplectiform attacks.	In sitting head may fall forward. Vertigo intense or made worse by turning head. Increased kneejerk on diseased side. Disorders of bladder. Cerebral ataxia. Glycosuria. General hyperesthesia (Lehman, Leber). Paresthesia in extremities (Ceci).

rigidities, paralysis of the third, fourth and sixth nerves, convulsions, localized and general, are signs quite distinct from abscess of the brain. And yet sinus thrombosis and brain abscess arising from the same cause may so complicate the diagnosis as to render a correct diagnosis well-nigh impossible.

From Systemic Poisoning.—The pulse is very weak and rapid, and is not influenced by chloroform or opium to complete anesthesia (MacEwen).

From Brain Tumor.—The intense optic neuritis, the slow progress of the trouble, absence of rigors, of ear trouble and of mastoiditis, with its usual attendant history of purulent discharge, and the slow involvement of the cranial nerves are characteristic of tumor of the brain.

From Cavernous Sinus Thrombosis.—In this trouble the characteristic signs are marked exophthalmos, which may be unilateral and become quickly bilateral; edema of the eyelids and chemosis of the ocular conjunctiva, all due to the venous obstruction; strabismus, ptosis due to the paralysis of the nerves surrounding the cavernous sinus. The nerves thus involved are the second, third, fourth and sixth. If the second cranial nerve be involved in pressure partial or total loss of vision must ensue. If the third cranial nerve be involved we will have involved all the external muscles of the eye (save the external rectus and the superior oblique), together with the levator palpebræ superioris and the iris. Ptosis and myosis will be present, the latter passing into mydriasis as the pressure increases. Strabismus will, of course, be manifested as the nerve supply of the various muscles becomes involved and complete opthalmoplegia may ensue.

From Sigmoid Sinus Thrombosis.—The distinctive signs of this trouble are the very high and fluctuating temperature, with the weak pulse; the perspiration; the diarrhea; the rigors, marked and recurrent with every purulent focus entering the circulation; the infected internal jugular vein; the infarcts in the lungs, with the prune juice expectoration and the pain in the upper triangle (MacEwen), with the marked asthenia, are very diagnostic of the trouble. If abscess of the brain and leptomeningitis be present as complications, these symptoms may overshadow the other symptoms and render an accurate diagnosis impossible though not improbable.

PROGNOSIS.

The prognosis is bad. Death is bound to occur unless operative intervention is secured to evacuate the abscess. Very rarely has the abscess found its way externally. Such cases have been reported by Bruns, Gruber, Wilde, Pollock, Zimmermann, Bouchet, Wreden, MacLeod, Randall, Schede, MacEwen and Truckenbrod.

According to Pollitzer, but one case of undoubted absorption of a cerebellar abscess has been reported, and that by Sutphen.

The prognosis with operative interference is good, as the statistics of MacEwen and subsequent operators show. Of course, the interference must be early in the history of the trouble. Körner, in 1896, showed out of 72 cases operated upon 42 were discharged cured and 30 ended fatally. Ropkes wrote of 142 cases in which 59 were cured and 82 ended fatally.

In cerebellar abscess, Körner quoted 16 cases operated, of which 9 were cured and 7 ended fatally. Koch, 19 cases showing 10 cured, and Okada 43 cases of which 16 were cured and the rest fatal.

TREATMENT.

The treatment may be resolved under two heads: (*a*) preventative; and (*b*) curative.

(*a*) Preventative treatment consists in treating carefully every case of purulent otitis media which may come under observation. It is for our encouragement that acute purulent otitis media seldom causes mastoiditis. The primary cause of brain abscess in almost every instance is a chronic purulent otitis media, which the patient too often is left to outgrow. This form is dangerous, and, as MacEwen well says, "One may as well go around with a charge of dynamite in his head as with a chronic otitis media." Strange to say, a purulent mastoiditis may exist without any pus showing in the external auditory meatus. A case operated upon by the writer in the summer for mastoiditis showed no evidence of trouble in either the external auditory meatus or the middle ear save the bulging or sagging of the posterior superior wall of the external auditory meatus. The aditus ad antrum was found closed, which prevented exit of pus into the middle ear.

(*b*) *Operative Treatment.*—The first thing to do is to open the mastoid along the approved lines, clearing out all pus, cholesteatomata and débris of all sorts. After having cleared out all dead matter the next step will be to wall off the mastoid wound with sterile gauze. Then the opening of the temporo sphenoidal lobe is accomplished by extending the mastoid wound upward by the ronguer, chisel and mallet. The bone opening should be not less than one inch square. To determine the presence of pus the writer has abandoned the aspirator because of his experience detailed in the paper read at the Saratoga meeting of the American Medical Association. In this case the needle of the aspirator evidently went clear through the abscess without locating it. After the dura mater has been cleared the opening into it had better be made with a sharp bistoury, and if pus is found the opening may be enlarged with artery forceps introduced closed and opened before withdrawing and withdrawing them opened. The incision into the brain substance should be made into the convexity thereof, and not into the fissures. Moreover, if pus is suspected it is even better to reflect a dural flap made semilunar with the convexity below. At times an abscess will not be found upon the first incision, which should preferably be upward, backward and inward. The other incisions must be made carefully in various directions.

The pus may be too thick to flow out of the wound. Then introduce a grooved director, which will make a very nice gutter for it to flow in. To explore the abscess cavity no better instrument has ever been devised save the finger. When the abscess has been evacuated it should be dried without irrigation and packed, preferably with formalin gauze, the latter the suggestion of Dr. George F. Beasley, Senior Surgeon to St. Elizabeth's Hospital, this city. Should the abscess cavity be very foul, as in a case reported in 1902 to the American Medical Association meeting, the mixture described there will be valuable. It consists of equal parts of oil of eucalyptus and menthol.

The writer has tried all kinds of drainage material, only to abandon all in favor of gauze. The subsequent packing should be very carefully made so as to wall off the mastoid wound from the brain abscess cavity. The subsequent dressings should be as infrequent as possible, and always without irrigation. For the first two or three dressings the finger may be introduced to satisfy one's self that no secondary abscesses have formed.

MacEwen believes in placing in the cavity a decalcified bone drainage-tube, which in the course of a few days will be absorbed, permitting the walls of the abscess to come together. Dench believes in using a rubber drainage-tube in deep abscesses, really putting two tubes together so as to drain between as well as through the tubes.

To explore the cerebellum: From the upper edge of the mastoid incision an incision is made backward to the occipital protuberance, and all soft tissues lifted from the periosteum and turned downward. The opening from the external auditory meatus is one and one half inches and one quarter inch below Reid's base line, which is established by running a line from the lower outer margin of the orbit through the centre of the external auditory meatus to the occipital protuberance. Dench advises entering the bone with chisel and mallet, because the bone is rather thin here. After exposure of the dura mater the flap of it is made convexity downward. In puncturing the substance of the cerebellum the knife must not go farther than three-fourths of an inch, because of the proximity of the fourth ventricle. If pus be found it should be evacuated and the cavity packed with formalin gauze, as in abscess of the temporo-sphenoidal lobe.

DISCUSSION.

Dr. J. A. Stucky, of Lexington, Ky.: I regret very much that a large number of the members of this association did not hear this interesting and instructive paper. Dr. Keiper's paper, like one or two others to be read by specialists this afternoon, is mostly for the stimulation and instruction of the general practitioner. You general surgeons and general practitioners see these cases of ear trouble more than we do, and unless you are wide awake you will meet some such cases as Dr. Keiper has told you of. I have had elevation of temperature and pain in these old chronic irritations, and I am glad Dr. Keiper emphasized this. In two cases of brain abscess I had these symptoms when they were least expected. I have learned to believe, and have taught my fellow-practitioners to believe, that when they meet with a case of chronic otitis media, with a nagging continuous headache, with a good deal of languor attributed to biliousness, there is a "nigger in the woodpile."

Dr. John F. Barnhill, of Indianapolis, Ind.: I wish to emphasize some points in the diagnosis of brain abscess. As the gentleman who preceded me has said, this condition is difficult to diagnose. However, it occurs very much oftener than is usually believed by those who practice medicine. A point which should be kept in mind always by the general practitioner, as well as the otologist, when he sees a case of chronic ear discharge, is the pain and its severity. In regard to pain, when there is present brain abscess I would emphasize the fact that in those cases I have seen and operated on it has never been in the neighborhood of the abscess itself or about the ear.

In the past year I have seen and operated on four cases of middle cerebral abscess, and in each of these pain was far distant from the ear, and in no case had the attending physician the slightest reason for the belief that the ear was the cause of this ailment.

Temperature is another guide which is, in my opinion, a signal directing the attention of the physician to the fact that an abscess may be present. In every case I have seen of middle cerebral abscess the temperature, after a certain time, and when the acute stage was reached, had gone below normal to the extent of one or two degrees. Thus it is not uncommon to find a temperature of 96.5° or 97°, and the pulse will often run as low as 45, 50, 55, or 60, but never into the eighties. In every case with a history of old ear discharge, that has headache in some part of the head, which may be and usually is distant from the ear, in which there may arise a sudden attack of vomiting, in which there is present elevation of temperature and acceleration of pulse, the general practitioner, or whoever sees such a case, unless he can find in other parts of the body the cause of these symptoms, should suspect that there is a brain abscess. It is unnecessary that the ear shall discharge profusely. Indeed, it is not necessary that there shall have been a discharge for the last month or past six months, because in two or three cases which I have seen rather recently there was absolutely none, and both the family practitioner and I had not suspected the ear as being the cause of the serious pain which was present. There have been histories like this in some of these cases: The practitioner has removed a large amount of wax from the ear recently. Many of these cases of so-called ear-wax are not ear wax at all, and in all cases of filling of the external auditory meatus with so-called ear-wax the practitioner who removes it should smell of it and examine it after it has been removed.

* * *

To increase the appetite in old age, Charcot and Loomis recommend aromatic bitter infusions (quassia, columbo, gentian) combined with strychnine, quinine and iron.

* * *

In gonorrheal rheumatism the best results, it is said, may be obtained by the use of heat, electricity, friction and massage.—*Med. Summary.*

BRIEF HISTORY OF THE MEDICAL LIBRARIES OF CINCINNATI.*

BY HENRY WALD BETTMANN, M.D.,
CINCINNATI.

The first large collection of medical books in Cincinnati belonged to the Medical College of Ohio. The college library, in 1820, contained more than 500 books in French and English. Ten years later one of the faculty, Dr. Cobb, was sent to Europe to make purchases of books and engravings. Up to 1847 more than $6,000 had been expended for books, which numbered over 2,000 volumes.

In 1851 the leading members of the local profession felt that it would be desirable to found a medical library open to the entire profession, and the Cincinnati Medical Library Association was founded. Dr. David Judkins was President, Dr. John A. Murphy was Secretary, and on January 9 and 10, 1852, Dr. Daniel Drake delivered two orations to commemorate the formal opening of the reading rooms, in the builuing of the Medical College of Ohio. Forty-four physicians subscribed $515, and Dr. Drake expressed his conviction that as the scope of the associatien was comprehensive, so its work would be permanent. The society was permanent for one year, and in 1853 the books and the furniture were sold at auction.

In 1870 the present City Hospital Library was founded. In March, 1870, the Ohio Legislature enacted a law under which it became possible to support a medical library and museum out of the funds paid by students for attending lectures at the hospital. This act was championed by Dr. John H. Tate, and was presented to the legislature by a committee of six appointed by the Cincinnati Academy of Medicine.

The same year the Public Library of Cincinnati, which had just moved into its new building on Vine Street, volunteered to give shelf-room to the medical library, free of charge, and to prepare a suitable catalogue. This offer was accepted, and in 1871, 1,124 medical books, valued at $2,015, were deposited by the Hospital Trustees in the Public Library. In 1872, 367 volumes were added to the collection. The same year Dr. Wm. H. Mussey expressed his intention of placing his collection of medical books in the Public Library, and naming it the "Mussey Library," in honor of his father, Dr. Reuben Dimond Mussey. This intention was carried out in 1874, and 3,513 volumes were placed upon the shelves and were designated "The Mussey Medical and Scientific Library."

In 1874 the Hospital Trustees were dissatisfied with their agreement with the Public Library and withdrew their collection, numbering 1,511 volumes; the Hospital Trustees paying back to the Public Library $2,077.37 which it had expended for medical books. This $2,077 the Public Library reinvested in medical books, carefully avoiding duplication, and added the volumes to the Mussey Library, which thereby was increased to 7,000 volumes.

The withdrawal of the Hospital Library from the Public Library had two important results.

First, it diverted the attention of the profession from the collections in the Public Library, so that the Mussey Library stopped growing, was less and less used, and has remained to this day an immensely valuable but rarely consulted collection, which contains a remarkable number of the classics of medical literature covering a period of nearly two centuries.

Second, the housing of the books in the hospital brought it to the immediate attention of the medical profession and insured its rapid growth. From 1,511 volumes in 1874, it grew to 4,320 volumes in 1884, 9,316 volumes in 1894, and nearly 15,000 volumes in 1904. During the past twenty-five years the library has been under the guidance of but two librarians, Dr. William Carson, who served with great zeal and foresight from 1880 to 1893, the date of his death, and Dr. Phineas S. Conner, who has taken much interest in its management from that date to the present.

The Mussey Library, as just said, is an

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* Read before the Academy of Medicine of Cincinnati, April 3, 1905.

invaluable collection of books. It is a history of medicine for two centuries, contained in the original documents. The writings of Ambroise Paré, Boorhaave, Cruveilhier, Addison, Bright, Graves, Cullen, John Hunter, Jenner, are there; our own Benjamin Rush, Daniel Drake, Jacob Bigelow, Noah Webster, Carey and many, many others are well represented. Here are the first American books on ophthalmology, on epidemics, on hydrotherapy, on obstetrics—and nearly all the American periodicals published early in the nineteenth century. Here are hundreds of volumes which should be sacred treasures of the profession, and they lie dust-covered in some obscure alcove of the Public Library.

Of the value of the City Hospital Library I shall say little, as that subject has been assigned to another. Completeness of current periodic literature is there sought as a goal, so that a man desiring to be abreast of the thought of his times can there keep abreast, as the scholars of New York, London, Paris, Berlin, Vienna visit us weekly with their best wisdom and their latest achievements.

The Cincinnati Medical Library Association was organized in May, 1903. Its chief aims were:

1. To render the existing collections of books more accessible, and to prepare useful indexes and catalogues.

2. To supplement the present libraries by subscribing for medical periodicals not now taken.

3. To form a permanent organization, incorporated under the laws of Ohio, for the reception of gifts of books to the profession.

The Medical Library Association has nearly sixty members. Last year it spent over $1,200. It has received valuable gifts of money, books, and pictures. It subscribes for twenty-seven medical periodicals. It employes an assistant, trained in library methods, to make the use of the library easier and pleasanter.

The association is supported entirely by voluntary annual subscriptions. It looks forward to the time when all the medical libraries of the city are united under one roof, under the care of a trained librarian, and with an income sufficient for its invaluable functions.

VALUE OF A MEDICAL LIBRARY TO THE COMMUNITY.*

BY DAVID I. WOLFSTEIN, M.D.,
CINCINNATI.

There are catastrophes whose effects are eons deep and world-wide—genuine world sorrows. Such an one was the burning of the Alexandrian library.

As long as man shall bow in reverent homage at the shrine of knowledge, so long will he continue to mourn the loss of the priceless treasures of Alexandria. What precious records of the older civilizations were thereby destroyed no one will ever know; how much the progress of humanity was thereby blocked we can hardly even surmise. In no way, however, are we made more conscious of our dependence upon libraries than by recalling the grief still poignant—yes, infinitely keener now, after sixteen centuries, than in the days when this crime against society was still moderately young.

The word library cannot be thought or uttered without awakening its associated concepts of culture, of progression, of achievement; for who will not agree with Bacon "that libraries are the shrines where all the relics of the ancient saints, full of true virtue and that without delusion or imposture, are preserved and reposed?"

With magic touch the skilled painter limns in his perspective, deceiving our senses with the illusion of vast distances; in the perspective of knowledge there is no deception. In countless tomes on groaning shelves the human mind has recorded for our benefit the mute though eloquent evidences of its incessant activity. Sometimes from written manuscript or printed page there flashes forth the words of some great genius, serving by a brilliancy which never pales to perenially illuminate the dark abode of ignorance; or, again, it may be only the less luminous inscriptions of some patient plodder adding perhaps only some isolated fact to stimulate, as time rolls on, some greater mind to greater achievement.

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* Read before the Academy of Medicine of Cincinnati, April 3, 1905.

The *historical perspective of human wisdom* is furnished by books, and books mean libraries.

The theme assigned me for this evening is the value of a medical library to a community, and my only reason for responding to it was the hope that the little I shall say this evening might serve to awaken an increased interest in our own excellent institution.

It is certainly superfluous that anyone should appear before this audience in advocacy of such a self-evident proposition. Whilst, however, the profession here and elsewhere believes in the truth of this proposition abstractly, it is very doubtful if the actual use made of our library justifies the assumption of any other than a very lukewarm belief.

Unquestionably, the exigencies of modern social existence force each medical individual to develop primarily his earning power, and probably everywhere, but especially in this country, the tendency is growing to render unto the Cæsar of science the things which are Cæsar's, whilst the practitioner is satisfied to be that which the name implies. If so, it is an evil tendency, and will be of short duration. The giants in medicine and the real leaders in every community have, as a rule, always successfully applied theory to practice; indeed, in only too many instances the theory of some great practicing clinician has been far in advance of the corroborative scientific demonstration of its truth.

There is no antithetic relationship between theory and practice, and the slave of the lamp has usually been the master at the bedside.

Virchow has said: "All scientific research is really literary." It is the settled though somewhat absurd custom of society to measure the scientific achievement of each epoch by the names of its few preeminent leaders. We are rendered conscious of the existence of that subtle, universal, mysterious force—electricity—by the sudden flash of the lightning, but what immeasurable volumes of power surged restlessly between opposing poles before the jagged stroke was born!

As the lightning flash is but the resplendent culmination of this great potential force, so, too, comes the genius, hero of his epoch, revealer of new truths, and the world, all forgetful of the vast stores of knowledge garnered through all the ages, laboriously accumulated by toiling dwarfs in many fields, has encomiums for him only whose greater stature lifts him above the mass of humbler workers.

The present generation may be likened unto a child in a crowd raised upon the shoulders of the elders that it may command the better view. "Grant them but dwarfs, yet stand they on giants' shoulders and may see the farther." So also must the science of to-day stand upon the shoulders of past achievement, and whilst with confident hope it looks ever to the future, it must oft perforce turn its wondering and worshiping gaze backwards, ever backwards, even to the very birth-time of the race. The spirit of the living present, mindful of the magnitude of its material triumphs, with the blood of jubilant youth in its veins, is often prone to hold in light esteem the labors of past centuries. Our greatest geniuses and our most original men in science have, however, cheerfully acknowledged their dependence upon the achievements of their predecessors.

To the uninitiated cellular pathology spells Rudolph Virchow, but this cornerstone of modern pathology rested securely upon the foundation laid down by Schwann and Schleiden. I have had no greater enjoyment than reading in many of Virchow's addresses his masterly account of the evolution of pathology and the exact statement of our indebtedness to the pioneers in this branch.

Listen to Virchow's own words: "The reproach has often been made that I have too much endeavored to make modern views conform to the older theories, but I can say here with a clear conscience that I have as little desire to rehabilitate Galen or Paracelsus as I should refrain from openly acknowledging that which is true in their views and experiences."

For the legion of the partially instructed the evolution theory begins with Darwin, whereas Darwin, like Virchow, was conscious of the rich heritage of knowledge bequeathed him by the past. Those who have followed the sequence of scientific events which led up to the *great theory*, worship Darwin none the less because he was the gifted architect that builded out of the vast material collected for him by many minds of lesser originality that impregnable fortress behind whose solid bastions the eternal verities of science now fear no attack. But before Darwin there were Linneus, Cuvier, Agassiz, Goethe, Oken, Lamarck and Lyell.

And so before Pasteur there were Spallanzani and Ferdinand Cohn. Before Hitzig illumi nated the obscure domain of cerebral physiology by his splendid experiments he was master of all the pre-existent recorded experience and experiment. Through Bouillaud, in 1825, he knew that destruction of a small excentric part of the brain might cause the symptom-complex of aphasia. He had profited by the epochal observations of Broca in 1862, and beyond all he had been impressed with the keen deductions of Hughlings Jackson.

This is what Hitzig himself says of Jackson: "As for Dr. Jackson, there is no doubt that his merits are of the most manifold character, but in foreign countries we connect his name above all with the memory of one fact, namely, that he was the first one who referred the partial cortical convulsions to peculiar centres of innervation. Many another had already observed these convulsions, but he alone hit the right explanation for the phenomenon, and by referring the convulsions to such centres he argued the existence of motor centres in the brain, and even told to a certain degree about what their position was, before physiological research was able with certainty to prove what they were. When this society summoned me to be the first of these lecturers it doubtless did so for no other reason than because I was precisely the first one, now some thirty and more years ago, to confirm by physiological experiment, and to define more closely that which Hughlings Jackson had already concluded from clinical facts."

The prime function of the library is, therefore, to conserve the wisdom of the past for the use of the present. Osler says: "It is hard for me to speak of the value of libraries in terms which would not seem exaggerated. Books have been my delight these thirty years, and from them I have received incalculable benefits. To study the phenomena of disease without books is to sail the uncharted sea, while to study books without patients is not to go to sea at all. To be of real value, there must be a general and continuous use; the books must be made available and their use attractive. What exsuccous attenuated offsprings books would be but for the pabulum furnished through the placental circulation of a library!"

The medical student should be inoculated during his college career with the love of books, authoritative books, and as a practitioner he should, wherever possible, maintain and increase his affection for our medical classics.

If we have ever analyzed the motives that impelled the majority of us to choose medicine as our vocation, what were they? It was surely not the hope of great financial reward. I should say that any young man who would with deliberation select medicine as a field in which to pile up wealth, would, judged mildly, be open to suspicion of intellectual immaturity, and judged properly I should say he was already presenting a symptom of dementia precox, the psychosis of the juvenile and adolescent periods.

There is also a well-recognized but debatable emotional state known as the "inward call," supposedly operative in recruiting the ranks of the clergy, but I doubt its influence in bringing accessions to our own profession. The laity loves to think so, as, indeed, they attribute generally a sum of altruistic motives to us I fear quite beyond our real deserts. Then, again, another small percentage drifts into medicine as the final culmination of that mental condition of delightful indecision which actuated the conduct of the celebrated Micawber.

Still another group adopts medicine because of an inherent distaste for commercial life and because it is a gentleman's profession. What governs the great majority of us, however, though as an imperative concept it may not have received full recognition as a dominant idea, is real sympathy with the love of study. Even in the humbler contingent of novitiates there is a certain degree of affinity for the intellectual side of life. Medicine is attractive because, whilst it fosters distinctly the intellectual, there is a fair guarantee of reasonable practical success coupled with a life of study, and eminent respectability. In every community, rural or urban, there is always some young man who is fond of study, loves books, is mayhap of speculative mental habit, and such an one in determining his future avocation will very often turn to medicine. Especially is this true in the country and smaller towns. Why, then, if the love of study and desire of knowledge be the magnetic power that attracts at the outset of a career, should we see these noble tendencies languish and wither in later years?

Why is the *Wissenshunger*—hunger for knowledge—of youth succeeded by the intellectual anorexia of a later period? It is largely because, except for a favored few, blessed of the gods, whom Fortune has placed in a proper intellectual environment, their hunger for knowledge is fed from the very start with the dry husks of learning, because they are forced to subsist upon a mind-food which produces first mental neurasthenia, psychasthenia, and, except in very resistant brains, often ends in premature mental sterility. First, the interminable cramming of the ordinary medical school, then the special "stunts" for the examinations, are responsible for much of the mental inertia which follows.

If this state of mental nolition be once established, then the intellectual provender of the *average* physician is the innutritious material of the *average* journal. I leave it to the honesty of most of you to indicate to yourselves the real value of this class of reading. The valuable reading, the reading that informs, that broadens the intellectual horizon, that creates that glorious feeling of mental plenitude —"of good measure, pressed down and running over"—is of another character.

Who would wish to command his subject, reads on subjects, not with superficial diversity, spreading himself out thin over too wide a field, but with concentrated energy along single lines.

In cultivating for the knowledge crop intense farming pays better than diversified farming. A reader of this school will treasure our great medical classics, will study the contributions of the authors in the original. If he wishes first a broad view, a general acquaintance with a subject, he will consult such magnificent encyclopedias as Eulenburg or Ziemssen's, or our own "Reference Handbook," or others of like scope.

Of greater value still are the many pecial monographs. For reading of this character and students of such calibre, a medical library is indispensable.

One of the most satisfactory signs of the medical renascence in this country—and I use the word renascence advisedly, for I verily believe that medical scholarship, and especially the literary standard, were higher in America at the beginning of the nineteenth century than in the middle of it—is the wonderful growth all over our land in medical libraries. There are now about 120 medical libraries in the United States, some of which started in a small way, and, fostered with enthusiasm and loving care, have reached splendid proportions.

The Boston Medical Library, the Brooklyn Library, the Library of the New York Academy of Medicine, and others in Chicago, Cleveland, Baltimore, Indianapolis, Grand Rapids and Denver, are fine examples.

These excellent book-collections have all grown up, out of, and around their respective societies, and represent the object of their special pride. For the proper utilization of medical literature the first essential is a complete series of the best archives and journals. Every day such complete series are becoming rarer and more expensive. Only a library with a good income can hope to maintain even the absolutely indispensable periodicals.

Text-books are of ephemeral nature. A few, such as Foster's "Physiology," or Osler's "Practice," or Gower's "Nervous Diseases," and, of course, others of like fame, will always be more or less standard.

The subject-matter of most text-books, however, is, as a rule, fairly *passé* when it appears. To keep text-books up to date frequent editions are called for, which is only possible for the most popular.

In the great journals and archives and monographs, on the other hand, there is a live literature. This is the forum of first debate. Herein the newer views and great thoughts are forged in the white heat of creative fire. In these contributions the author displays his methods, shows us his process of reasoning, and step by step we may follow his researches or his logic, and at every step our own powers of criticism are awakened.

It has been estimated that nine-tenths of the ordinary journalistic productions is practically worthless a few years after it has been written. I am confident that five-tenths is certainly worthless the day it appears. Nevertheless, the chaff must be preserved with the wheat, and it is only in a well-conducted library that a moderately complete collection can be maintained.

A library will be of value to the medical community when it keeps all the best reference works on the bibliography itself. In this, as we all know, the United States has taken first degree. The Index Medicus, and the library of the Surgeon-General's office are the paradigms in this line. Our Hospital Library has them, and besides, such tried and true friends as *Schmidt's Jahrbuch*, *Virchow and Hirsch Jahresbericht*, *Jarbuch der Gesammten Medicin*, *Archives Généralé de Medicine*, etc.

One form of medical literature in which we are especially deficient, and which only a few private individual medical Crœsuses can possess, and which I regard as the most valuable of all types, are the transactions of the great general and special societies. In my own branch of neurology the very best productions, those that are epoch-making, appear in these "Transactions," and even the best journals rarely have more than inadequate reviews. My respect for the review is not profound. I review myself. No one can do your work for you as well as yourself. True, they point the road to the good literature, but how few of us ever make the journey!

If you would gain inspiration go to the original source; drink deep of the spring of knowledge as it sparkles forth clear and limpid, not after it has become contaminated and stagnant by much wandering.

To make a library truly serviceable there must be in charge a librarian who can serve. *He must be something more than a book shepherd.* True, he must love his flock of books, as books, but more for the meat that is in them than for the hide in which they are bound. A librarian should have intellect enough to serve us as an intelligent guide and know his material well enough to place it promptly at our disposal—yes, even to suggest that for which we are searching. Personally, I wish that we could endow a librarian with plenary powers. He should, of course, have *constructive power*, for his chiefest aim should be to build up his library. Within wise limits, however, "and there's the rub," he might be endowed with *destructive power*.

We are all familiar with those doctrinaires who in their goodness of heart wish to benefit humanity by slaughtering the unfit. Unquestionably, it would be vastly beneficial if the idiotic, the hopelessly degenerate, the hardened criminals, and all that great horde of extra- and anti-social unfortunates who are the mill-stones around the neck of society could be exterminated.

Although this school of super strenuous Spartans has generously offered to allow the medical profession to act as executioners, we have not yet availed ourselves of the privilege. We have felt that there might be some practical difficulties to overcome. Huxley says, in "Evolution and Ethics:" "I have been obliged to admit this that rigorously scientific method of applying the principle of evolution to human society hardly comes within the region of practical politics, not for want of good will on the part of a great many people, but because, for one reason, there is no hope that mere human beings will ever possess enough intelligence to select the fittest. The 'points' of a good or a bad citizen are really far harder to discern than those of a puppy or of a short-horn calf."

Whilst I cheerfully relinquish the hope that society will ever adopt this drastic plan of the Spartans for its perfection, the librarian would be less hampered with practical considerations in connection with the preservation of *his* fit and unfit types. Think what a blessing would be conferred if a well-balanced librarian or a congenial committee with incendiary inclinations could hold an annual *auto da fé* and burn publicly in the market-place all the hopelessly degenerate, unfit and useless matter which contrariwise must encumber the shelves of the library and perhaps—awful thought—propagate a numerous progeny in kind!

The word Academy took its origin from a certain garden belonging to the Greek Academos, "See there the olive groves of Academos, Plato's retreat." Here, surrounded by all that was healthful, beautiful and inspiring, Plato expounded his philosophy. The groves of Academos became the very centre of Greek wisdom.

So, too, our Academy should be the

centre of all that is fruitful and useful for the medical profession of this city. I must refrain from encroaching upon the territory of the next reader, but I trust the time is near at hand when this Academy may stake out for itself larger duties and more important aims.

The medical library of this city should be under our control. We ought to have—if not our own building, and that is hardly feasible—quarters of such fitness as would furnish a safe repository for the splendid collection of books already existent here.

The profession here should foster not only the scientific, but the social side of our lives. Our Academy should be at once our school and our club. When we meet to hear our papers read the friendly, honest faces of our literary companions should greet us from loaded shelves around the room, whilst from the walls the honored countenances of our great medical heroes should inspire us to noble emulation. The rooms of the Academy should be open day and night, and as few restrictions upon the use of literature as is consistent with the maintenance of the library should be established.

There should be cozy, quiet corners, comfortable chairs and fine tables, and at intervals, instead of being devoted solely to library uses, they should be ranged round the festal board. I know that physicians have a hard struggle and not much money to spend, but who would not pay higher dues for the privilege for such an Academy?

In other cities they maintain extra library dues, with a different scale of cost for active, for non resident, and for associate library members. If we had a fireproof library or quarters in a safe building, and it was generally known that the library was the child of the Academy, we should soon be deluged with donations.

Duplicates would accumulate, which we could exchange for missing files with other libraries, and I have no doubt that the Public Library would, as soon as it felt safe in so doing, abandon to us its medical department, and the requisite funds for its support through taxation might be allotted to us, and would, of course, go far towards the support of our own institution. The details could be probably worked out, and there is no reason to doubt that we should have the same success in Cincinnati as has been obtained in other cities, amongst them cities of lesser importance than our own.

Gentlemen, the medical organism of Cincinnati has not been as flourishing as the high standard of professional ability and the importance of this commonwealth would justify, but it would almost seem as if a healthier condition might be predicted in the near future. In the meantime, whilst we are hoping—I might even add praying—that the great leaders in this community may see their way clear to the establishment of medical affiliation and coöperation of all the forces that are here existent, there is one clear duty for this Academy.

We must erect a home, and in that home the feature of greatest attraction must be the library. The influence which would radiate from such an Academy, installed in its own building and surrounded by ideal conditions which every member must feel to be the noblest part of our lives, could not fail to arouse renewed interest along other lines of medical activities.

On this burning question, at least, the Academy can act unitedly, and it would be but a few years before the whole profession would receive inestimable benefits and could bequeath to those who follow in our footsteps a useful and noble institution of learning and avancement.

A Warning and a Protection for X-Ray Workers.

A. Holding (*Medical Record*, March 25, 1905), rehearses the dangers of dermatitis, malignant disease, azoospermia, etc., that confront the X-ray worker, and points out that it is possible that the second decade of experience with Roentgen's discovery may reveal activities as yet unsuspected. The greatest care should be observed by radiographers to avoid unnecessary exposure, and the author describes and illustrates a suitable screen, three feet by six in size, covered with double layers of lead pipes, which is intended to cut off all rays from the operator who manipulates the switch-board from its shelter and observes patient and tube by means of a pivoted mirror affixed to the side of the frame work. M. A. B.

A SUGGESTION AS TO THE TREATMENT OF THE "SPOTTED FEVER" OF MONTANA.*

BY P. M. ASHBURN, M.D.,
FORT MISSOULA, MONT.,
Captain and Assistant Surgeon U. S. Army.

As the title of my paper indicates, it is my purpose to deal particularly with the treatment only of this very interesting and dreadful disease. For that reason, and because you are all so familiar with its manifestations, it is not necessary for me to enter at length into a general discussion of the disease, but as the treatment in whose favor I desire to argue is what I consider a rational treatment—*i.e.*, it is based on physiological and reliable clinical data—and as I recommend it because I think it will better combat certain phases of this disease than any other treatment, it may be well to review in the briefest possible way our knowledge of the affection.

Considering that knowledge, then, in the brief manner indicated, we may say of the etiology of the disease that nothing is known concerning it. Therefore, it furnishes us no clue to treatment, though for a time our supposed knowledge on the subject led us into what I believe to be an erroneous and possibly harmful treatment.

PATHOLOGY.

Our knowledge of the pathology of the disease cannot be said to cast any great light on the subject for our consideration to-night. All that it enables us to say is that the patients die of a very profound toxemia, which irritates the kidneys very greatly, the liver less so, and causes enlargement of the spleen, and which is probably responsible for the symptoms.

PROGNOSIS.

Of the prognosis we can only say that it could not well be worse than it is in the majority of cases, and my opinion is that, so far as former methods of treatment are concerned, it is uninfluenced by them. The cases that I have seen recover did so, I think, by the grace of God and a mild infection, and not because of anything that was done to combat the infection, or neutralize, destroy, or eliminate its toxins.

SYMPTOMS.

A consideration of the symptoms gives not the best, possibly, but to my mind the only, indications for treatment that we have, and for that reason the treatment that I desire to advance for discussion to-night is purely symptomatic, and *not specific.*

We get our indications for treatment, then, from the existence of grave symptoms relating to three great physiological systems, the circulatory, the nervous and the excretory. These symptoms are a weak heart, a feeble and rapid pulse, extravasations of blood, a dusky skin with deficient heart radiation, hypostatic congestions, particularly of the lungs; rapid and shallow respiration, with, probably, diminished oxygen consumption; great diminution of urine, with the frequent presence of blood and casts, and almost constant presence of albumin; headache, nerve pains, delirium, coma, convulsions, and the combinations of these symptoms that go to make up what is called the "typhoid state." While it is true that the etiology of this disease is not understood by us, analogy gives us every reason to suppose that these symptoms are due to a powerful toxin circulating in the blood; and the fact that we do not know the maker of the poison should not deter us from trying to eliminate it and to strengthen and sustain these parts and functions especially injured by it, until the organism has time to form the proper antibodies in sufficient amount to overcome the disease.

The symptoms mentioned above are not all present in every case, nor is any one of them apt to be present at all stages in any case, but we cannot say that this disease presents any greater variety in its appearance and manifestations than do pneumonia, diphtheria, streptococcus septicemia or typhoid fever, and it probably does not present as great variety as some of them. And as in those diseases, so in this; variation in the clinical manifestations does not necessarily argue differences in the nature of the infection or its toxins.

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* Read before the Missoula County (Mont.) Medical Society, February 25, 1905.

And as in those diseases the symptoms are produced by the circulation of the toxins in the blood rather than by the organisms themselves, and as the treatment aims at the destruction, the neutralization or the elimination of the toxins, together with the maintenance of the general strength as well as possible, so in this disease we may assume the presence of the toxin and find, I believe, our greatest efficiency in combating it, and, as we know of no way of neutralizing or destroying it, we must for the present content ourselves with the next most rational methods, viz., elimination and stimulation. Possibly we all agree up to this point, but a consideration of the methods of treatment thus far used at all extensively in the disease would seem to indicate either that these facts have been lost sight of or that a very great diversity of opinion has existed as to the best means of accomplishing the desired results. The latter I believe to be the case, but a review of the results can hardly fail to convince us that the best, or even a fair, means has not yet been adopted.

In view of what little we do know, I cannot at present see any sufficient reason to expect specific effects from any treatment I have yet heard of being applied. Certainly I fail to see any such reason to expect such effects from quinine, from creosote, from calcium, from guaiacol, from mercury, from iodides, from arsenic or from opium, nor can it be said that the results obtained from their use is a first-class warrant for their future use.

Before proposing any other treatment I must make the apology which I certainly owe for my presumption in presenting it to you, who have so long been familiar with the disease, while, as you know, my acquaintance with it is brief and I have not had the opportunity to treat a single case myself. The excuses I make are: (1) that I have not heard one of you express himself as satisfied with the treatment or treatments heretofore used, while I have heard most of you express yourselves as very much dissatisfied; (2) that all of you who had cases last summer were so good as to allow me to see them, thus giving me a fair acquaintance with the disease and the unsatisfactory state of the treatment, and convincing me that I am in the house of my friends; and (3) the fact that I am not advancing anything new, anything in the way of an experiment, nor anything whose use is not based on sound physiological data. Trusting that with these facts in view you will not consider me too presumptuous, I will say, then, that, to my mind, certain hydrotherapeutic measures present to us a more rational method of treatment than does anything else, though drugs will undoubtedly supplement them to advantage at times.

Keeping in mind the indications for treatment—free elimination of toxins and maintenance of the circulatory, respiratory and nervous systems—let us consider the best methods for this symptomatic treatment, for which purpose I think it well to consider separately the symptoms presented by the different parts or systems, taking up at the same time the consideration of the treatment indicated.

First for our consideration is the temperature. It is always elevated and sometimes attains to dangerous and marked hyperpyrexia—106° to 108° F. Dr. Gwinn has particularly called attention to the much higher rectal and internal temperature. Is there any division of opinion as to the best remedy for such a condition? Would you not unanimously say that the cold friction bathing offers it?

Digestive System.—The alimentary canal does not usually show much disturbance. The stomach usually does its work well until upset by the fever. As in most acute infectious fevers, it is probably wise here to clear the bowels out well at the beginning of the attack by the use of calomel, followed, if necessary, by a saline. This gets rid of putrefactive matter which, if left alone, might further poison the patient and which would almost certainly hamper digestion. In addition to which it is possible that the infecting organism has its habitat in the bowel, and calomel may adversely influence it. The mere absence of gross lesions in the bowel does not necessarily negative this supposition. Owing to the manner in which fever impairs digestion, the food should be given in such amounts and be of such a character as to minimize the labor of digestion, especially late in the disease. This will probably help to keep up the strength.

The mouth should be kept very clean to prevent the formation of sordes. Frequent washing will suffice. Iced enemata may at times send blood to the surface and lower internal temperatures.

Urinary System.—The kidneys are practically always injured, as shown by the reduced amounts of urine, the high coler and density of it, and the presence in it of blood and of very numerous blood and epithelial casts. This injury to the kidneys must be caused by a violent toxin, and as it greatly cripples one of the most important eliminating organs of the body, it results in an increase of toxins remaining in the system and must influence the case adversely. The indications seem clear—to get rid of, or at least dilute, the poison doing the mischief; to lessen the work of the kidneys as much as possible; to wash out the débris clogging them. Dilution of the poison can be brought about by passing a large amount of liquid into the blood-vessels, but the excess must be eliminated principally by the kidneys and skin, and the condition we are combating in itself prevents the kidneys from doing their share. The same remark applies to the matter of washing out the débris. The kidneys may be relieved of part of their work by the skin and the bowels, and these must be utilized. The kidneys cannot do any better than they are doing until the circulation is improved in them. Now the most effective therapeutic measure known for improving such a kidney condition is proper cold bathing. It improves the circulation of skin, kidneys and bowels, thus enabling all three to get more blood from which to abstract poison; it increases the working capacity of the skin as well as cleansing it; it raises the blood pressure and very greatly increases the amount of urinary excretion, often (in typhoid) from eight, ten or twenty, up to sixty, eighty or a hundred ounces daily. That it increases the elimination of toxins must be evident from the increased toxicity of the urine, at times increased five fold. The increased amount of urine eliminated means a flushing of the kidneys and an increased absorption of fluid to take the place of that excreted, thus bringing about dilution of remaining toxins. This action may also be supplemented by the use of normal saline venous infusions, which add the diluting fluid directly to the blood and increase diuresis.

Skin.—The skin presents, especially late in the disease, a very poor circulation, as is shown by its pallor, duskiness, and, at times, positive cyanosis. This necessarily results in internal congestions, in aggravation of the heart's difficulty, in deficient heat radiation, because less blood can get to the cooler skin. Physiological and abundant clinical data, the latter especially from typhoid, clearly demonstrate that we have no other means at our command which are nearly so effective in combating this condition as proper cold baths with friction. By means of these the peripheral vessels are at first contracted, but they soon open wide in tonic dilatation and remain so for quite a while. Moore blood is thus brought to the skin, whence its heat is more readily radiated by a surface cooled and freed from dry and dead epithelium. Both physiologically and clinically it is easily demonstrated that the heart is speedily relieved and strengthened. Later, perspiration as well as heat radiation are increased. Quite possibly, by so keeping up the tone of the peripheral vessels from the beginning of the disease they might be saved from the degeneration which permits of the hemorrhages into and the darkening of the spots.

Lungs.—The action of the lungs is impaired in practically all cases, so that the symptoms of deficient oxygenation are very prominent. Oxygen inhalations have been much used for this reason. Nearly all cases show hypostatic pneumonia, and many die with positive edema of the lungs. The respirations not infrequently reach 50 or 60 per minute. This is also frequently the case in untreated typhoid, yet how rare, relatively, is it in typhoid treated by proper tubbing! The condition is dependent largely on the feebleness of the circulation, and as we have no tonic for it equal, in these conditions, to hydrotherapy, so we have nothing that so frequently prevents or so well combats the lung conditions dependent on it. The long-drawn inspirations caused by the contact with the cold are also of great help in starting the lungs aright. The increased circulation of blood cells utilizes the oxygen thus inhaled.

Nervous System.—The nervous symptoms in this disease were certainly both numerous and serious in the last year's cases, whether they are always so or not.

All the patients seriously sick died in coma, besides which we may find headache, sleeplessness, various nervous pains, delirium or convulsions. These symptoms are, I think, undoubtedly due to two causes—poor circulation and the directly poisonous effect of toxins in the blood. Therefore, an elimination of toxins and improvement of circulation, both of which are accomplished by hydrotherapy, must effect them favorably. The reflex stimulation brought about by the contact of cold with the innumerable nerve endings of the skin has well been likened to flagellation in opium poisoning. It keeps the system awake and going until the poison is eliminated.

Typhoid again presents a fine analogy. The nervous symptoms in that disease have always been regarded as most grave, yet they cannot be said to be more so than in this. Yet consider how they have almost disappeared under the Brand treatment. It is not necessary to quote authorities at this late day to prove that no other known measure or measures so favorably affect the nervous symptoms of typhoid. I have myself many times seen effects that seemed little short of marvellous, and I presume that most of you have likewise seen them. The calmning of delirium, the removal of subsultus, the avoidance of coma, the procuring of sleep, are, I believe, to be brought about more readily by the use of cold bathing and the judicious use of alcohol than by any other means.

Circulation.—Last, but most important of the symptoms to be considered are those relating to the circulation. The evidences of the great injury to this system are manifold, and on its impairment many of the symptoms we have already considered depend in part or altogether. The feeble heart-beat, the weak first sound, the feeble and at times dicrotic pulse, the dusky skin, the diminished urinary excretion, the hypostatic pneumonia, and most of the nervous symptoms, are all of them evidences of damaged circulation, and all of them improve with its improvement. Not one of the symptoms named but may at times and in different conditions be removed by the use of medicinal heart stimulants. In prolonged toxemias and fevers, however, these stimulants often prove but broken reeds, and the most that we can say of them—in typhoid, for instance—is that they are helpful in promoting the more certain and more prompt effects of hydrotherapy. This is natural, as they can none of them aid to any great extent in ridding the system of the circulating poisons which cause the depression, and as no one of them causes that healthy tonic dilatation of the periphreral blood-vessels which is probably the most important single feature following cold friction baths, they do not, to use Woods Hutchinson's word, stimulate the great "skin heart." This last is so important a matter, and seems so plausible, that I desire to quote (as an aside) from Baruch's "Hydrotherapy," page 15, second edition. Quoting Hutchinson, he says:

"In fine, we would venture to submit the conclusions, simply as a basis for further investigation and discussion:

"First, that the existence of active contractility upon the part of the muscular wall of the arteries and arterioles, and in less degree of the veins and lymphatics, and of the capillary epithelium, is something which we have the strongest reason to expect upon ancestral grounds in even the highest mammals.

"Second, that the beneficial effect of cold water upon the circulation, particularly of a high degree of salinity and accompanied by friction (first) in health, (second) in the Brand method in typhoid fever, and (third) in the Schott Nauheim method in cardiac diseases, are adequately to be explained only upon the ground of the persistence of such a power in our mammalian skin heart.

"Third, that the occurrence of this sort of contraction is almost uniform in invertebrates, and has been observed in the vascular area of many of the lower vertebrates, frogs and fishes; and in those positions in which it could be readily seen under normal conditions in the higher vertebrates, the wing of the bat and the ear of the rabbit, so that we have abundant grounds for the possibility of its occurrence in our own species.

"Fourth, that in the behavior of the vessels in health, as noted by physiologic investigators, there are again conditions which are admittedly unexplained, and yet which may be accounted for on this supposition—the rhythmic pulsation of the vessels in the rabbit's ear, the restoration of normal tone on the part of the vessels of any area after recovery from section of the vasomotor nerves, the persistence of contraction in the ventricle in the lower vertebrates and auricle in all forms after the section of all the cardiac nerves, the phenomena of the dicrotic wave, and the anomaly of an increase in the rapidity of the circulation and amount of blood in a given part coinciding with the marked increase of arterial resistance."

Commenting on this, Baruch says: "The author has reproduced Dr. Hutchinson's 'skin-heart' theory, because it confirms his own views on the subject, reached independently on clinical grounds, and it affords the most rational explanation of most hydriatric procedures which has yet been presented."

Quitting this digression and returning to my subject, you see that what I recommend in treatment is the Brand treatment of typhoid fever, plus the occasional use of normal salt infusions, and, I would add, the use, when necessary or indicated, of a few medicines, principally calomel, alcohol and strychnine. "Spotted fever" presents every indication for this treatment that is presented by typhoid, and every argument for its use may be presented in the one disease as in the other, except the important one of favorable clinical experience, and spotted fever may be said to present that by proxy, as the same symptoms are to be combated in both diseases, and are seen to be successfully combated by this means in typhoid. It is a treatment that has reduced the mortality of typhoid to one-third or one-fourth of its former figure. David Murray Cowie, in Buck's Reference Hand Book of Medical Sciences, quotes Combemale as saying that it reduced the mortality of typhus from 35 to 16.5 per cent. Considering the similarity of the symptoms, the clear indications for such treatment, the uselessness of other methods, would we not be acting wisely to give this a trial? If we could get even half as great an improvement as has been obtained in typhoid or typhus we could well regard it as wonderful, and could, furthermore, take charge of these cases hereafter without the feeling of utter helplessness that so many have experienced and voiced in the past.

But as cold bathing has often been misapplied in typhoid fever, I would couple to my recommendation a caution. If we use this method of treatment let us bear in mind the following facts:

1. That the lower the temperature of the water (below 60° F., say) the greater the contraction of the blood-vessels of the skin, the slower their consequent dilatation and the smaller the reduction of temperature and the greater the internal congestion.

2. That without friction a moderately cold bath (70° F.) may do harm in the same way, and in the same way may fail to reduce temperature.

3. That until reaction occurs the circulation is not benefited, and that to hasten reaction by friction is absolutely necessary for this reason also.

4. That the effect on the circulation, because in that way the condition of the skin, kidneys, lungs, nervous system and temperature itself are beneficially influenced, is the most important object to be attained.

5. That a water not cold enough does not cause the primary spasm of the skin vessels, without which the *tonic* dilatation does not follow.

6. That alcohol or hot coffee by the mouth and iced water by the rectum add to the efficiency of the bath and hasten reaction.

7. That, while the temperature may be used as a guide within considerable limits, the circulation being most what we want to influence, the baths should be given at such fairly regular intervals as to exercise a continuous, beneficial effect on it, and should be graded by its condition rather than by the temperature.

Keeping these points in mind I think that we would do well during the coming season did we adopt the following rule in treating "spotted fever:" To immerse each case presenting a temperature of 102.5° F. in a tub of water at 70° F. and keep him there, constantly applying hand friction to the body and limbs, with cold applications to the head, from ten to twenty minutes, according to effect, and to repeat this procedure every three hours as long as the temperature remains above the point indicated. This bath should be preceded by the administration of a stimulant (my preference is for alcohol), and followed by a quiet rest in bed under blankets, and, if necessary, with hot-water bottles at the feet. No objections can be raised against this procedure that have not been raised against similar treatment in typhoid fever, and I see no reason to apprehend that they would not prove equally groundless, while there is an added argument for its trial in this disease in that almost no severe cases recover under other treatments.

The procedure is very simple, and I see no reason why it should not be practicable. A large proportion of cases are treated in hospital, where there can be no question of the feasibility of bathing. But I do not see any insuperable objection to it in any home where the disease may occur, or even in a sawmill or tent. The patients always have attendants—that is absolutely necessary. Many of them do not have bathtubs, but a wooden frame seven feet long and three wide, with two and a half or three yards of table oilcloth, will make an excellent tub. In a camp a tub could easily be improvised by planting four small posts or large pegs, stretching a rope around them and fastening the oilcloth to the rope with clothes pins. A dollar will probably cover the cost. With the attendants and the tub, all that is necessary is that a thermometer should be furnished and that the physician should give clear instructions about the baths and personally superintend the administration of the first one or two. To such of you as require clearer or more extensive arguments on the *rationale* and the clinical results of cold bathing, I would recommend Baruch's "Hydrotherapy," on which I have not hesitated to draw freely.

THE EYE, EAR AND THROAT SEQUELÆ OF DIPHTHERIA.*

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The lesions I intend to consider are those occurring after the primary diphtheritic disease has run its course in part or wholly, and are other than those following upon direct extension of the original diphtheritic invasion. Among such, disturbance of sight is not of rare occurrence. In most instances this is due to paralysis of the ciliary muscles and without involvement of the pupillary muscles. The onset of the paralysis is rather sudden, happening, as a rule, between the second and fourth week after the patient has considered himself well of his diphtheria. Children are much oftener thus affected than adults, and, strange as it may seem, we find it following the mildest as well as the most severe attacks of diphtheria. The accommodation palsy is nearly always bilateral. However, cases where but one eye was involved are of record, and as a unilateral affection in children it may exist without the little one directing attention to it. The diagnosis is made as in the following case:

Ethel L., aged nine and a half years, had just recovered from an attack of faucial diphtheria when she found herself one day unable to read and was directed by the family physician, Dr. H. F. McCool, to consult me. To direct observation the eyes are not inflamed or diseased. The pupils appear normal in size and react well to light. With the ophthalmoscope no disease was found in the optic nerve or other parts of the fundus. At twenty feet the child had vision $^{20}/_{20}$, while near by (thirteen centimeters) she read the finest Snellin print only with the help of a plus 4 diopters lens. The fact that the patient had normal far vision and lost so much of her near vision is of itself of great diagnostic importance in excluding disease of the lens or fundus as being the cause of her inability to read.

Through the labors of Donders, largely, it is established that a child of nine and a half years, and neither myopic nor hyperopic, should read the finest Snellin print at a near point of seven centimeters, or, to express it otherwise, possess an accommodation of 14 diopters. This little girl having her near point at thirteen centimeters, and at which distance she ordinarily, according to Donders, accommodates 8 diopters, requires an assistance of 4 diopters, so that she really possesses but 4 diopters. Hence, it follows that 14 diopters, minus the 4 she still retains, makes her total loss 10 diopters.

To many of you, perhaps, this way of computation is rather difficult, and it may be enough to know that in a young person who comes to you with a history of having recently had a sore throat and suddenly finds himself unable to read, while he still sees well in the distance with both eyes and retains normal pupillary reaction, the diagnosis of post-diphtheritic paralysis of accommodation is reasonably correct. In fact, under the circumstances, we are unable to offer any other acceptable solution. It is true that other infectious diseases, such as typhoid fever and smallpox, may produce loss of power of accommodation, but you would have the history of the patient to guide you and a condition of general physical weakness, and not the seeming good health that your diphtheritic patient presents.

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* Read before the Ohio Valley Medical Association, Evansville, Ind., November 9-10, 1894.

Besides paralysis of the ciliary muscles, we meet with paralysis of the external eye muscles, and of these the external rectus is oftenest involved, with, perhaps, occasioning an internal squint. Uhthoff reports a case of paralysis of all the external eye muscles, with slight ptosis, but preserved pupillary reaction.

In rare instances vision is defective not from paralysis of accommodation, but because of an intra-ocular lesion, such as neuritis, suppurative choroiditis and primary atrophy of the optic nerve.

Lastly, the ophthalmic division of the fifth nerve, supplying the eye with sensation, has in rare instances been known to be affected, and followed by a neuro-paralytic keratitis.

In the organs of hearing the diphtheritic sequelæ are not so apt to be of a paralytic nature, but rather of an inflammatory and destructive character. In the external ear we may have ulceration and sloughing, followed by cicatricial contraction and stenosis of the external meatus. The middle ear may suffer in function through simple catarrhal otitis media or through otitis media purulenta, either variety causing more or less permanent impairment of hearing. The suppurative variety is prone to run a protracted course, and when associated with true diphtheria of the tympanic cavity, destructive processes involving the drum, the hearing ossicles and the osseous walls of the middle ear may follow. Death from hemorrhage of the internal carotid artery through erosion of its bony canal has occurred. Likewise facial paralysis through perforation of the Fallopian canal. Should the bone disease lead to penetration into the cranial cavity death may ensue from sinus thrombosis, meningitis or brain abscess. The inner ear may be affected through suppuration in the labyrinth or through new connective tissue and bony formation. In either instance great loss of hearing is liable to follow, and in children under six years of age deaf-mutism in addition. Lastly, the auditory nerve itself may be implicated through a peripheral neuritis and be the cause of nerve deafness. The ear should be frequently examined during an attack of diphtheria to insure early detection of its involvement, since by early paracentesis alone we are often enabled to avoid much of the evil that follows late recognized or untreated cases of middle-ear inflammation.

In my own practice I have met with paralysis of the soft palate and of the ciliary muscles with about equal frequency. Bosworth, however, places paralysis of the soft palate as second in frequency to that of accommodation. Like the eye muscles, we find the palate muscles affected after very mild as well after the most severe attacks of diphtheria. As an instance of throat paralysis with fatal termination in a young adult, I will relate the following case:

Miss A. M., about twenty-eight years of age, was first seen by me in consultation January 18, 1895. The entire tonsillar and pharyngeal surfaces, so far as seen by the eye, was covered by a thick, black diphtheritic membrane. The external lymphatic glands over the angle of the jaw were much enlarged; likewise the faucial tonsils. Under the treatment adopted the throat disease gradually improved, with disappearance for the greater part of the diphtheritic membrane. The kidneys now became involved, while the urine contained an abundance of albumin. After some twelve days the nephritis began to yield, when next the heart became implicated, as shown by irregular action and increased pulse frequency. In two weeks this complication began to disappear, only to be followed by paralysis of the palate and swallowing muscles. Rectal feeding not sufficing to nourish the patient, resort was had to the stomach-tube. After the first passage of this the patient objected so strenuously to its further use that we were obliged to discontinue our feeding in this way. Death occurred two and one-half months after the first appearance of the diphtheria, from aspiration pneumonia.

The detection of paralysis of the soft palate is not difficult. At once noticeable and characteristic is the nasal tone, with perhaps complaint of dysphagia, liquids especially being liable to regurgitate through the nose. To direct observation loss of motion is found in the palate upon attempted phonation or swallowing. In the larynx we may meet with paralysis of either the superior laryngeal or the inferior laryngeal nerves. In the former case there results loss of sensation in the mucous membrane, with loss of motion in the crico-thyroid muscles; in the latter, loss of motion solely, the voice becomes weak or wholly lost, while the cords assume a position of semi-abduction.

It is asserted by some (Lublinski) that since the introduction of the serum treatment for diphtheria that post-diphtheritic palsy is more frequent than formerly. The reverse is true in my own experience. The seat of the paralytic lesion is now generally accepted as one involving the peripheral nerve endings.

Our prognosis, so far as relates to the motor palsies, is favorable, recovery, as a rule, taking place in from four to eight weeks. Where the sensory nerves of the larynx are affected death not infrequently follows from aspiration pneumonia. The prognosis is highly unfavorable for resulting deaf-mutism this being far less amenable to treatment than the congenital variety.

Treatment: Iron, arsenic and strychnine as general tonics and tissue builders, with the use of either the interrupted or the continuous electrical current. Locally for ciliary muscle paralysis, pilocarpine or eserine may be instilled into the eyes once or twice daily. For internal ear deafness the hypodermic use of pilocarpine has occasionally proven of value. The treatment of the simple or suppurative middle-ear catarrh will not differ from that used when due to other causes.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, MAY 20, 1905.

THE TREATMENT OF PLEURITIC EFFUSION BY PARACENTESIS AND INCISION.

West[1] discusses first the normal circulation of lymph through the pleura in the belief that this knowledge is essential to correct understanding of the lesion. It is often stated that serous effusion is absorbed —*i.e.*, removed through the agency of the blood-vessels—yet the part which absorption plays is shown to be very small. The pleura is a lymph-sac connected through the stomata with the lymphatics of the lungs on one side and of the thoracic walls on the other. The lymph-trunks on both sides have valves directed away from the pleura. Such an arrangement of valves indicates a circulation, and there is such a circulation of lymph in health through the pleural sac, lymph passing into the sac from the blood-vessels and being removed by the lymphatics, and these processes are so adjusted that no fluid accumulates in the pleural sac. The sac is accordingly often described as dry, but it is not dry; it always contains just enough fluid to keep the surface moist.

This action may be called the "lymphatic pump." The movements of respiration work the pump. Inspiration sucks lymph in; expiration, by the help of the valves, drives it out; the direction of the lymphatic circulation being in the lungs from the pleura to the root of the lung and in the thoracic walls from the pleura to the adjacent lymphatic glands.

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[1] The Lancet, London, March 25, 1905.

Fluid might therefore accumulate in the pleura in two ways: Either more fluid might enter than could be removed, or, owing to some interference with the pump mechanism, less might be removed than is necessary. In pleurisy both causes are in action, the inflammation causing increased exudation while the inflammatory swelling and fibrinous exudation chokes the stomata. When the effusion has reached a considerable size the direct pressure of the fluid upon the stomata and superficial lymphatics creates a further obstruction. Lastly, a large effusion greatly reduces or abolishes the action of the respiratory lymphatic pump; hence, when a large effusion has formed the fluid already in the pleura cannot be removed, for the pump does not work. The pure absorption of fluid through the blood-vessels accomplishes little or nothing. This explanation of pleuritic effusion will show the futility of the once popular so-called derivative method of treatment. The withdrawal of the fluid through the hollow needle is the only rational method of treatment. The pump is started again, and if properly done is entirely without danger.

The indications of paracentesis are given by the size of the effusion, by its duration, and especially by the occurrence of dyspnea. When the pleura is full of fluid the sooner paracentesis is performed the better. Even a small effusion is better tapped if it has existed for some time and shows no signs of disappearance.

Early tapping—*i.e.*, in the first few days—will not shorten the duration of an attack of pleurisy.

The occurrence of dyspnea presents some points of special interest. Of course, an effusion in the pleura decreases the lung capacity, and, other things being equal, the amount of dyspnea will vary with the rate of effusion, *i.e.*, with the rapidity with which the fluid is accumulated; thus it may be trifling with a very large effusion if the effusion has accumulated slowly, and severe with a much smaller effusion if it has formed rapidly. That type of dyspnea which arises and rapidly becomes urgent requires a different explanation. This is due to "congestion" of the opposite lung. A rapid extravasation of fluid into the tubes occurs as a result of functional breakdown or incompetence, in which both heart and lungs take their share. This is not an inflammatory condition. This condition of congestion arising in one lung when the other is out of gear is a grave one, and calls for immediate paracentesis.

There are no indications against paracentesis. The author advocates siphonage as the best method of tapping a serous effusion. The apparatus consists of the ordinary trocar and cannula connected with an india rubber tube reaching to the floor. The mouth of the tube should be placed in a vessel, say a tumbler filled with boiled water. The fluid will immediately flow and the constant negative pressure of from eighteen to twenty inches of water in the tube will furnish a sufficient suction force to withdraw all the fluid. If tapping be performed in this way the fluid is removed slowly under a steady constant pressure and the lung expands gradually. The withdrawal of the fluid by an aspirator is strongly condemned because of the danger of rupturing the lung in the presence of adhesions. The pain occurring during aspiration is probably due to the stretching of adhesions and may require discontinuance. Cough may be due to the irritation of the expanded lung by the cannula and the alteration of the circulation or to the presence of some secretion in the bronchial tubes. Shortness of breath is for the most part subjective. Symptoms of general distress associated with an anxious, uneasy, pale countenance usually indicates cardiac disturbance, but are rarely of serious import. A general anesthetic is never necessary for this operation. The author has twice incised a side freely for the cure of persistent serous pleurisy in which paracentesis has been performed more than thirty times. These cases resulted favorably, yet the author does not advise this method of treatment except in the unusual cases.

In the treatment of empyema West recommends incision and drainage at the earliest possible moment. His recommendations vary somewhat in other respects from present teaching. The site of incision advocated is just in front of the post-axillary border on the level of the nipple. Resection of the rib is not advised, though washing out the pleural cavity is advocated. The early removal of the tube is particularly condemned. Estlander's operation is condemned. In pneumothorax tapping may be indicated at two different periods: First, immediately after its occurrence; and second, later, when effusion has formed. The aspirator is unnecessary in this condition also, siphonage being regarded as sufficient.

The prognosis of hydropneumothorax is by no means bad; indeed, rather the reverse, if paracentesis is performed earlier than has heretofore been the case. Pyopneumothorax is the most serious form of pleural trouble, but even this may be successfully terminated. It should be treated in all cases like empyema, nor must tuberculous disease of the lung be regarded as a contra-indication. H. J. W.

CEREBRO-SPINAL MENINGITIS IN CINCINNATI.

The note of warning sounded in this journal some weeks ago as regards the probability of a spread of cerebro-spinal fever in our city was given additional emphasis in a discussion of this subject held at a late meeting of the Cincinnati Academy of Medicine. While the number of cases in Cincinnati are not sufficiently large to constitute an epidemic, yet they are large enough to cause the gravest anxiety as to what the future may hold unless the most stringent measures are made to stamp it out. While for the most part it has been confined to the poorer districts in the northwestern part of the city, evidence is not wanting that it has obtained a foothold in the more salubrious and wealthy neighborhoods. In spite of efforts to limit its spread, the number of cases seems to be on the increase. The type of the disease is exceedingly grave, few if any being saved, and of those few it were better perhaps that most of them had died, owing to the terrible sequelæ that so frequently follow this affection.

Treatment is comparatively important. The hopes that were built up on reported success with large doses of diphtheria antitoxin have been dashed to the ground after a fair and extensive trial in New York under the supervision of a commission appointed for the express purpose of investigating this scourge, a commission composed of a number of the best men in the country. While theoretically repeated lumbar puncture or even drainage of the spinal canal held out some prospect of cure—and, indeed, there are still many advocates of this method of treatment—practical results have not been very favorable. To be sure, some relief is obtained by the diminution of intra-cranial and intra-spinal pressure, yet it does not eliminate the specific cause of the infection, the meningococci, which can be and are grown in or upon the surface of the meninges with much greater rapidity than they can be drained away. We have perforce returned to our old household gods, the narcotics, especially opium, the ice-cap, maintenance of nutrition, if necessary by rectal feeding, and the warm bath at about three-hourly intervals.

It may yet be shown that the epidemic of this disease with which so many of the cities of this country have been afflicted has not been an unmixed evil. The cry for help which has gone forth from various boards of health has led many excellent bacteriologists to a closer study of this disease from the standpoint of therapy than has perhaps heretofore been accorded it. They know the specific micro-organism, its manner of growth both within and outside the body, and we are almost assured that we will never be able to obtain therapeutic results worthy of the name except by serum therapy. Upon that line bacteriologists are now laboring, and it will be only a question of time before the problem is solved. In the meantime it concerns us mostly as physicians to endeavor by every means in our power to prevent its spread. In regard to its contagiousness, we have every opinion from "highly contagious" to "non-contagious," and from equally good authority. We cannot regard it as highly contagious on account of the rapidity and readiness with which the specific micro-organism succumbs outside the living body. That it is contagious to some degree, however, can be no longer doubted, and it is better to so regard it, for it is only by the prompt and efficient sanitary measures that the contagious diseases call forth that we can hope to stamp out this dangerous malady.

The question may very naturally be asked, "How can we employ sanitary principles properly when we do not know how the organism escapes from the diseased body and in what manner it enters the healthy?" We can only reply that the principles of isolation, sterilization and disinfection must be employed even more elaborately than would otherwise be the case because of this very ignorance of the manner of contagion. We must bear in mind that the organisms of the disease are not enclosed entirely in the bony cavity of the brain and cord, but are contained in the blood and other fluids of the body as well. In this way it is possible for them to appear in almost any organ of the body. Recent investigations have discovered them in a number of cases in the nasal mucus, and contagion from this source has been regarded as extremely probable. A pneumonia due to the diplococcus intracellularis is not uncommon, and may also be instrumental in the propagation of the affection. Therefore, it is suggested that, in addition to the ordinary methods of sanitation now in use, particular attention be paid to disinfecting or in otherwise rendering innocuous the secretions of the respiratory tree.

THE ACADEMY OF MEDICINE.

The Cincinnati Academy of Medicine now has more than four hundred members, and there are more than four hundred members of the medical profession in Cincinnati who are eligible but not members. The field to work on is white for the harvest.

Dr. Tate, President of the Academy, and other officers of the association are very active in bringing in recruits, more than twenty having been brought in within the last month.

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In a little talk with Dr. Cassat the writer was informed that in the library which he recently presented to the Academy of Medicine there are quite a number of volumes that are absolutely out of existence in any other collection, and are not even in existence in the famous library in the Surgeon-General's office in Washington. The Academy is fortunate in its library possessions, but is in sore need of am agician's wand to waft all medical library books into one harmonious whole. At present there are important segregations. The Mussey Library of several thousand volumes, the Ohio Medical College Library, the Cincinnati Hospital Library, with the Academy Library, are the most important collections, and embrace hundreds of volumes not to be found elsewhere. The entire aggregation constitutes one of the most valuable libraries in the world. These books are within a few squares of each other, and all within a few blocks of the famous Lloyd Library, which is a unique collection, extensive in size, and, like the others, is simply beyond an estimate of intrinsic value. The latter is better in hand than either of the others, being systematically arranged in a building recently erected by Mr. Lloyd.

These libraries are famous, but do not have a tenth of the magnetic power they would have if they were all together in one great building of fire-proof construction. Together they would be great and illumine the entire Ohio Valley. They would be great as receivers and givers of light, life and knowledge. Men are coming from afar even now to consult the tomes on the shelves of the present insufficient buildings.

There are a lot of valuable medical books in the Cincinnati University Library which should be brought into the great library of the future. Fortunately, these are in a fire-proof building, and not in danger from fire. A duplicate of the University Library building is what is needed right now in the down-town district in Cincinnati.

There are other extensive and valuable libraries in the city besides the one donated by Dr. Cassat, some of which will naturally be attracted by the tremendous aggregation of the near future. Even Dr. Cassat has more than four thousand books on scientific subjects, and who has dealt with the Academy so generously that the writer is loth to make a suggestion until he is able to see for himself what is to be done with his recent donation. There is such a thing as being too avaricious and crowding too hard. Of course, the claims of his own judgment and desires will be consulted, but there is already a loadstone of magnitude getting in its work as an attractive force.

A new fire-proof structure is what is needed—in fact, must be had. It alone will be sufficient to make any man famous, as well as attractive to all book-houses and to those who love their fellow-men. Books are a substantial entity and have binding force, bringing all men together on a common plane, and never fail to get there in their beneficence. The world has never ceased to wail and mourn the loss of the great Alexandrian library, and the time may come when there will be a great and never-ending wail and weep for the Cincinnati Academy of Medicine and Hospital Library. Right now we have the books and are not giving them the care that is necessary for their preservation.

Libraries are things of growth, and come more nearly being animate or living entities than anything else which can be named. They contain within them actual germs of life, as having a circulation, nerves, sensation, bones and sinews. More, they have a power of intellection beyond anything else that is merely material. When cultured they are capable of attaining great age, strength, expansion and avordupois.

The medical profession of Cincinnati is strong and giant-like in its libraries on medicine. The world must be made aware of these facts, and then there will be within our sphere and corporate limits a compact mental and physical force that will draw all men to us. Books are an attraction to every one; especially is this true of medical books, because they treat of the science of self or man.

To be sure, it is well known to nearly every one that there are many worthless books, but the number of medical books which are in this category is quite small and insignificant in comparison with others in similar libraries.

That which is wanted right now in Cincinnati is an isolated, fire-proof library structure, designed for an accommodation of the books we already have and twice as many more. For the library will need growing space, and should not be subject to the dangers of cramp, or growing pains, but provide for an amplitude of expansion. So be it. J. C. C.

PUBLICITY.

This is a feature of the period, intended for an enlightenment of the people. Last week the Ohio State Medical Association held its annual sessions at Columbus, and one of the first things enacted was a resolution making the transactions of the association, including all papers, the exclusive property of the organization. Perhaps this was good policy and perhaps not. However, THE LANCET-CLINIC bows to authority, although it means anything and everything but publicity, cutting out as it does many good papers and discussions.

In most organizations there is a provision for majority vote as a rule of action. In the Ohio State Association, as we see, this does not pertain, but a delegate body controls everything and everybody. For this reason our readers are not permitted to read in their favorite publication the Ohio State Association proceedings.

If a little bit of "gumption" is not kept on tap for instantaneous use a funeral of the Association may be predicted and the corpse will be found ready for the obsequies.

Publicity is what is wanted by all readers of papers, and these men will bring their ideas into practical play and shape in the near future. This is in explanation of a criticism likely and liable to be made.

Canton was selected as the place for meeting in 1906, Dr. A. B. Walker presenting the city's claims.

The following officers were elected: President Dr. Thomas C. Martin, Cleveland; First Vice-President, Dr. B. H. Dean, Lebanon; Second Vice-President, Dr. W. B. Hedges, Delaware; Third Vice-President, Dr. John A. Dickson, Ashtabula County; Fourth Vice-President, Dr. D. R. Silver, Sidney.

Councillors — Second district, Dr. Horace Bonner, Dayton; Fifth district, Dr. Will E. Dower, Cleveland; Seventh district, Dr. J. C. M. Floyd, Steubenville.

Delegates to the American Medical Association, Portland, Ore., are Drs. C. S. Hamilton, Columbus; C. L. Bonifield, Cincinnati; W. K. Moxey, Ironton; John McCurdy, Youngstown, and J. A. Kimmel, Findlay. J. C. C.

EDITORIAL NOTES.

WHERE and when did the Publication Committee of the Ohio State Medical Association meet and have its sessions? The very idea of such a committee having secret sessions! Did you ever? Well, no, never.

No one but councilors and delegates are permitted to enter the hallowed precincts under pain of immortality. To be a councilor is to be known as one of the immortals. To be a delegate is to be just a little lower than the angels. Franchise functions are limited. Lo and behold a great light shines. Through the maze there are no signals shown. Oh, my! Who's who? J. C. C.

DR. EARL H. BRUNS, lately interne to the Cincinnati Hospital, after a six months' course at the Army Medical School at Washington, has passed his examination as Assistant Surgeon United States Army first in his class. Dr. Bruns' first assignment will be in the Yosemite Valley with a troop of cavalry.

ACADEMY OF MEDICINE. — Monday evening, May 22, a symposium on sterility in the male will be presented: "Tuberculosis and Neurasthenia as Causative

Factors," Dr. George E. Malsbary; "Classification of Gonorrhea and Syphilis as Causative Factors," Dr. M. L. Heidingsfeld; "Psychoses," Dr. Herman H. Hoppe.

THREE new cases of yellow fever have been reported in the Panama zone since April 29. This makes sixty-one cases with eighteen deaths in less than a year.

THE Meningitis Commission of New York City have come to the conclusion that diphtheria antitoxin, even in the large doses recommended, is without value in the treatment of cerebro-spinal fever.

Treatment of Chronic Dysentery by Irrigation of the Colon Through the Vermiform Appendix or an Opening into the Cecum.

W. H. Arthur (*Medical Record*, March 25, 1905) has carried out the treatment of dysentery by this plan in six cases, and is very favorably impressed with the results, although he considers the number too small to enable definite conclusions to be drawn. The advantages of this method of irrigation over the deep rectal injections are:

1. The irrigating fluid is delivered first at the point shown by experience at the post-mortem table to be the location of the most extensive lesions, and is carried from there by the natural peristaltic movement of the colon to the outlet. Rectal irrigations, to reach even the transverse colon, must overcome this natural tendency of the bowel to drive out any foreign substance.

2. It is entirely painless, and very much easier for the nurse to administer. Indeed, the patient can soon be taught to do the irrigating himself.

3. It is possible to keep it up much longer, for rectal irrigations soon become so distressing that they must be discontinued for long periods.

M. A. B.

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NEW SERIES VOL. LIV. MAY 27, 1905. WHOLE VOLUME LXXXXIII.

CONSIDERATIONS ON INHERITED SYPHILIS.*

With Special Reference to Paternal Inheritance.

BY A. RAVOGLI, M.D.,
CINCINNATI.

The subject of inherited syphilis opens a large field of study for the pediatrist and for the syphilologist. Syphilis, still existing in one of the parents, or in both, is transmitted to the offspring, and upon the degree of infection depends the development and life of the fetus. Since the time of Swediaur[1] it was known that syphilis could be transmitted from the father to the fetus through the semen, and little attention was paid to the maternal side. Ricord and his followers maintained the possibility of the transmission of syphilis from the infected father and from the infected mother. The observation shows, however, that most of the children carrying with them this sad heritage from the uterus must be considered as having inherited it from the father. Montanier maintained that some men affected with latent syphilis communicate the disease to the wife without there being found in the woman any trace of the point where the virus has made its entrance into the system. Cullerier, Simonet and Oevre expressed the same opinion, that syphilis from the father is transmitted to the offspring through the mother.

Drysdale found that this assertion did not correspond with his experience, but he agrees with the fact that, when the mother is affected with syphilis, the children are more certain to be affected with the congenital form of the disease. Zeissl is of the opinion that men affected with syphilis generate syphilitic children, while the mother remains apparently healthy.

It is not our object to enter into so interesting a discussion, namely, whether a woman can give birth to a syphilitic child and remain perfectly healthy. We are of the opinion already expressed by

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[1] Swediaur: "Traite complet des maladies Syphilitiques," Paris, 1801.

* Read before the Ohio State Pediatric Society, at Columbus, May 9, 1905.

Caspary,[1] that in a great many cases the woman who has given birth to a syphilitic child without showing signs of infection is only apparently healthy. The so-much praised Colles' law is only a proof of a latent infection, because if the woman were free from syphilis, she would be infected by her own babe, just as any other wet nurse would be.

We agree with Boulangier,[2] who had already observed that a woman married to a syphilitic man, who no longer shows symptoms of lues, may, on becoming pregnant, be infected by her own syphilitic child. Diday[3] reported seven cases where syphilis had been transmitted by conception, and all seven children were deeply affected with syphilis. In our opinion we maintain that when the mother has not been infected by her syphilitic husband she will be infected by her syphilitic child, in the same way that a syphilitic mother will transmit syphilis to her developing child. The sperma containing the syphilitic germ at the act of fecundation infects the ovum and generates a syphilitic child, through which the mother is infected by the direct entrance of the virus through the utero-placentary circulation. The woman so infected can either show symptoms of a severe case of syphilis, or she can have very mild and scarcely perceptible symptoms. Syphilis, like tuberculosis, may remain latent in the depths of the system for years without showing its presence at all, and then after some years a gummous or ulcerative process appears, as a new and difficult problem for the physician.

In many cases syphilis kills the fetus *in utero* on account of a cachexia which it produces in its system without showing apparent syphilitic lesions. In several cases of miscarriages and of children who died a few days after birth, and who were delivered in the venereal ward from syphilitic women, the post-mortem was unable to reveal any apparent gross alteration induced by syphilis. The cause of death seems to have been in the lungs in the form of pneumonia. The lungs were red, hard and infiltrated, and when cut a quantity of bloody serum was oozing out, which had remained in the pulmonary cells. The fetus in these cases had met death more on account of a general cachectic condition than on account of a defined syphilitic manifestation.

The infection of the fetus can be carried through the sperma as well as through the placenta. The sperma of a man who is still under the poisoning influence of syphilis carries the infection to the egg, and, although the woman is entirely free from syphilis, the fetus receives the infection. At this point either the fetus, saturated with lues, through the exchanges of nutrition between fetus and placenta, gives the infection to the mother, or the syphilitic virus remains latent in the fetal system. In this case the mother will remain healthy, although late in life the offspring may show symptoms of lues.

Spermatic infection is therefore a fact, which remains as a menace for a healthy mother with a syphilitic husband.

I will refer to a few notes from my private practice. An Italian emigrated to this country, leaving in his mother country his wife, with two children. While far away from his wife he became infected with syphilis. Being a man of splendid physique, strong and robust, who had never been sick in his life, he had very mild symptoms, and for this reason took very little care of himself and insufficient treatment. After nearly two years he brought his family from Italy, and they have resided in Cincinnati ever since.

His wife came here six years ago, and soon after became pregnant, and had at full term a still-born babe. Then she had a miscarriage at the seventh month of pregnancy; the fetus was badly macerated. A third pregnancy brought another miscarriage at the sixth month. The fourth pregnancy gave another still-born babe at the full term. When she became pregnant again, the fifth time, she called on us for treatment. We subjected her to inunctions with mercurial ointment and saturated solution of potassium iodide; towards the second part of the pregnancy we inserted in the vagina small suppositories made up of 10 per cent. unguent. hydrargyri. This medication per vaginam was stopped on account of a stubborn vaginitis and dermatitis of the labia majora and of the skin of the genitals.

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[1] Caspary, J.: "Uber gesunde Mütter hereditär syphilitische Kinder," Vierteljahreschrift, 1875, p. 437.

[2] Boulangier: "La Syphilis par conception," Presse Medicale Belge, 1894, No. 37.

[3] Diday, P.: "Le peril venerien dans les familles," Paris, 1881, p. 196.

In the last portion of her pregnancy she took only potassium iodide. Some time before the full term she expressed the fear of death of the fetus on account of feeling very weak movements. One week before delivery the movements of the fetus ceased entirely. She was delivered of a well-developed fetus, weighing over eight pounds. The epidermis had begun to be macerated, and when handling the fetus was easily detached. Apparently there was no luetic symptom. Autopsy was not allowed. The placenta was well developed, firm, of a normal consistency, and did not show any infiltration which could suggest the possibility of gumma. The funis looked perfectly normal. We took a piece of placenta and a piece of funis, which, after hardening and cutting in sections, were studied under the microscope. The villi appeared to be normal and the blood-vessels did not show alterations of endoangioitis, which are so commonly found in syphilitic affections. In the same way the Warton jelly of the funis looked normal, and the artery and venæ umbilicales did not reveal any infiltration or any proliferation of their endothelial coating. They were filled with clotted blood, which is natural, the death of the fetus having occurred *in utero*.

In this case the preventive treatment of the mother was of no benefit to the fetus. The normal condition of the placenta has clearly shown that there was no taint from the maternal side, but the infection came only from the paternal side in a germinative morbid influence.

This case finds an opposite condition in another where the mother had been infected:

L. M., in 1899, called at our office with a recent syphilis. His body was covered with papular eruption, the mucous membranes were full of mucous patches. He was living out of the city and found it difficult to be treated with injections, so he contented himself with pills of protoiodide hydrargyri. A few months later he married a girl in perfect health, who was soon infected. She had three pregnancies, and every one ended with abortion or a still-born fetus. In 1903 both called for medical attention, on account of the death of their babies. Both still showed stigmata of syphilitic lesions. They were cautioned to prevent conception and both were treated with a mixed treatment consisting of deep injections of gray oil and large doses of potassium iodide. This method of cure was continued off and on for over a year, until they showed no symptoms of lues. Then they were advised to resume coitus without precaution. In June, 1904, the lady was pregnant, and in August she called again for advice. During the first part of her pregnancy she took eight more injections of gray oil, ten minims each once a week, and continued to take internally potassium iodide for two months. During her pregnancy she felt no inconvenience, and at the beginning of February of this year she gave birth to a healthy male child, who so far has not shown any sign of inherited taint.

This case would have a tendency to show that paternal heredity is more treacherous for the offspring than maternal syphilis. Furthermore, that the preventive treatment would be more effective in the case of maternal syphilis. In the case of paternal syphilitic inheritance the preventive treatment of the mother seems to have not much effect on the developing fetus.

It is interesting to refer to another case of paternal syphilitic inheritance, which shows the persistence of the syphilitic virus and the saltuary way it shows in the family, while the mother has never been infected.

In 1889, V. A., twenty-five, of good physique and in splendid health, was infected with syphilis. He was frightened at the idea of the disease and he took treatment faithfully. He had the secondary macular and papular eruptions, not very severely, the most persistent symptoms being about the mucous membranes of the mouth, tongue and throat. He was treated with intramuscular injections of sublimate, then inunctions with mercurial ointment, and some treatment by ingestion. After the second year no more symptoms could be seen, and yet he continued with his treatment, and once in a while he called on us in order to be examined. In 1893 he married a healthy young lady, who, in the following year, June 27, 1894, gave birth to a male babe, well nourished and perfectly healthy. The boy is at present going to the intermediate school and is rather bright and intelligent.

On the 2nd of September, 1895, his wife, still in splendid health, gave birth to a seven months' baby, who always remained thin, suffered with eclampsia, and six months after died with meningitis. On March 20, 1896, the wife gave birth to a female babe, in good health, who has never had any sign of disease, is still well and is attending school. In 1898, March 20, another male babe was born in good health. On March 18, 1900, another boy was born well. On September 2, 1904, a male child was born with distrophies, consisting in the right hand having only three fingers, and the left humerus being shorter and anchylosed at right angles with the bones of the forearm.

It is not to be doubted for a moment that the missing fingers, the thumb and the auricolaris of the right hand are the result of the arrest of development due to syphilis, and that the shortness of the humerus and its anchylosis is due to syphilitic epiphysitis and epichondritis, which has been produced by a few syphilitic germs, which, latent and inactive in the father, have passed to the offspring, causing only local affections resembling those of heredo-syphilitics in the third generation.

A. D. O., a strong and healthy Italian, in 1889 acquired syphilis when in the military service. He had a few months' treatment, which he discontinued, believing himself perfectly well. In 1891 he emigrated and came to Cincinnati. Before marrying he consulted us, and we advised him to take more treatment, which he did for a short time. In 1893 he married a strong, healthy Italian girl, who after her marriage has never shown signs of syphilis. In the beginning of 1895 she gave birth to a healthy male child, who has always been well and is now attending school. In 1897 she gave birth to a female babe somewhat prematurely, who soon began to suffer with eclampsia, and died when five months old. In 1900 she gave birth to another female babe, who, when one year old, was affected with infantile paralysis; at present she is five years old, and is totally blind from atrophy of the optic nerve.

Both these cases plainly show the saltuary way of the syphilitic hereditary transmission through the paternal side. It seems that in these cases the infection has occurred entirely through the sperma, as we have found that the placenta had remained perfectly free from syphilitic alterations. The sperma of the man has carried the syphilitic germs, which have remained latent in the fetal system. The germ so transmitted, although in many cases capable of killing the fetus *in utero*, yet in other cases it remains inactive during fetal life, and will develop later on as retarded syphilis; or it is capable of producing an arrest of development or some local process of tertiary order in one of the developing organs of the fetus whereby it comes crippled, or with some systemic disorder. In these cases the mother remains healthy, as there is no transmission from the fetus to the mother. It has been a transmission of syphilis from the paternal side. Culleriér, Notta, Charrier, Durac, Moreur, Owre and Sturgis have brought out observations tending to show that paternal heredity is only of rare occurrence, and that children of a syphilitic father, who have not infected their mother, usually remain free from syphilis. Their views have entirely upset the dogma of Kassowitz, which states that the inheritance of syphilis from the father is obligatory.

Matzenhauer, in his work on the "Inheritance of Syphilis," diminished a great deal the importance of the paternal side of heredity, and with a good and well-founded critique examined all the observations which had been brought as a support of this view and diminished the importance attached to the possibility of a paternal heredity. Finger, however, still adheres to the paternal heredity as a form of germinative infection.

In the cases referred to we have clearly shown that a syphilitic father without sign of the disease is capable after a long time of generating syphilitic offspring which are killed *in utero*, while the mother has never had symptoms of lues.

As the reverse of this case we must briefly report another of a mother who had suffered with multiple ulcerated gummata of the knees, who gave birth to two healthy children. In both deliveries the placenta was tightly adherent to the uterus, so that on both occasions it was necessary to detach it artificially.

The placentæ, flabby and easily broken, were found on both occasions to be clearly luetic, as they were studded with yellowish nodules of the size of hazelnuts, which proved to be gummata of the placenta.

The woman had received a long protracted treatment, consisting of inunctions with mercurial ointment and iodic preparations. The extended ulcers had been bathed with sublimate (1 to 1,000) solution, and dressed with mercurial plaster. This case is just in accordance with two cases referred to by Napp[1], where two children were born healthy and the placentæ were luetic.

It is a fact that syphilis is transmitted to the offspring by the father through the semen, while the mother may remain perfectly healthy.

Our observations are in accord with those of Ricord, Bassereau, Ruge, Hutchison, Feurnier and others, who have all referred to cases of families where paternal heredity alone had produced tainted children. Time and protracted treatment so attenuate the infectiousness of the syphilitic germ that after a certain period its contagiosity and also its power of transmission can be considered as extinct.

We must not forget, however, that men who have had syphilis and have been well treated, have married after a long period of years from the infection, have never infected their wife and have generated healthy children, have nevertheless shown syphilitic lesions after marriage, or such serious functional troubles as to produce severe impairment or even death.

In many cases children are healthy for some time, even for years, but the time comes when they show signs of the inherited taint, which, transmitted by their father at the time of fecundation, had remained latent and inactive in their system as a morbid potentiality.

Consequently, inherited syphilis must be divided into early hereditary syphilis and retarded hereditary syphilis.

There must be taken into account, in the development of the syphilitic manifestations, the amount of syphilitic virus, the infection of both parents, the time elapsing from the infection, the morbid intensity of the virus, all of which have great influence on the frail organism of the fetus. The syphilitic germ when introduced into the ovum from the paternal side shows its morbid hereditary influence in various forms and degrees of severity.

In the recent works of Legrand, Sperk, Werner, etc., concerning the morbidity and the mortality of syphilitic babies, most of the observations are limited to syphilis from the maternal side, because they have been made amongst infected prostitutes. In general, it is admitted by the authors mentioned that the mortality of the offspring from recently infected mothers amounts to 80 per cent. It is, however, very difficult to state what the fate of the other 20 per cent. is. In reference to the influence of the paternal syphilis on the death of the fetuses, not many observations have been reported, but, from our experience and from the cases reported, we can say that syphilis is also dangerous for the life of the fetus.

Voerner[1] produced records of eleven syphilitic women who had been subjected to constitutional treatment, either by inunctions or injections, before conception and after it, during the time of pregnancy, with mercurial ointment suppositories in the vagina. Of these women one had a miscarriage at the end of the second month, a second had a macerated fetus at the end of the eighth month, a third had a babe in a good healthy condition, though somewhat prematurely, which in the second month began to show signs of hereditary syphilis, coryza, papules, and four weeks later died. The others gave birth to normal healthy children free from specific signs. In the fourth week one babe showed symptoms of syphilis, and after five weeks another took pneumonia and died. Another babe, who had never shown signs of lues, died with gastroenteritis. Two other babies towards the third month showed signs of lues; both died, one in the seventh month with gastro-enteritis, the other in the eighth month with pädatrophy. Another died, when ten months old, of pneumonia; the babe had never shown signs of syphilis, neither were any found at the autopsy.

Eleven children remained alive, a luetic one who during the third month had suffered with mucous patches and a pustular eruption, a second one at the fifth month was still healthy and was lost sight of. A third had a papulo-squamous eruption. Four showed no signs of lues. The remaining suffered with maculo-papular exanthema after the second and third month, all of which stood treatment and got well.

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[1] Napp, H.: "Zur Trage der Vererbung der Syphilis," Arch. f. Derm. und Syph., Bd. 70, p. 273.

[1] Voerner, H.: "Uber die vaginale specifische Behandlung schwangerer Frauen," Derm. Zeitschr., Bd. 11, 1904, page 162.

In the case of paternal syphilis alone we meet more frequently with cases of what is called retarded inherited syphilis. The babe is usually born healthy, grows steadily and remains in good health until a certain age and then shows signs of luetic infection. Signs of syphilis hereditaria tarda may become manifest at any age from the fifth to the twentieth, or even the thirtieth year of life. It was formerly believed that syphilis was manifest at birth or a few weeks later, but this idea has been easily dispelled by the observations of manifestations of syphilis delayed not only for months, but even for years.

Yet the period of life in which syphilis has the greatest tendency to show its presence in the tainted organism is at birth and during childhood, but it may also appear later.

Symptoms of retarded syphilis belong to the tertiary kind, and the influence of specific treatment in the earlier period of life seems to have no special effect. It is often observed that those who have inherited syphilis are liable to be affected with a peculiar form of inflammation of the cornea. It is a peculiar form of interstitial keratitis, which, according to Hutchinson, is a proof that the patient is tainted with inherited syphilis. In children this keratitis is often preceded by troubles in the joints as a characteristic sign of inherited taint.

Individuals affected with this disease may show a peculiar malformation or bad implantation, especially of the upper incisor teeth, a malformation which has been so well described by Hutchinson. It consists in single vertical notches at the edge of the teeth, which constitute an evidence of atrophy of the middle tenticle, and in consequence the tooth shrinks and remains narrow and even somewhat short.

In some cases of retarded syphilis there has been observed a condition of the retina closely resembling retinitis pigmentosa, and also an affection of the choroid, resembling choroiditis disseminata.

Cases of deafness have been found as a result of hereditary syphilis in the form of labyrinthitis, as found by Voltolini, Moos and Politzer.

That retarded hereditary syphilis quite often affects the brain is known. Jacksonian epilepsy is one of the earliest symptoms of syphilitic brain trouble; this usually occurs during the second year of life. In some cases it is revealed in the form of *laryngismus* or *spasmus glottidis.* Ashby, in the post-mortem of these cases, found extended softening of the brain from a diffused endoarteritis.

Syphilis as an hereditary taint is in many cases the cause of infantile hemiplegia.

We do not believe that all cases of convulsions in children are attributable to syphilitic taint, but when there is no other cause present, and when the administration of potassium iodide has a beneficial effect on the recurrence of the attacks, we have good grounds to believe them to be the results of inherited syphilis. The same remarks can be repeated in case of chronic hydrocephalus, which, although the result of other causes, yet is without doubt produced by retarded hereditary syphilis. Idiocy, too, is closely related to the same hereditary taint.

The brevity of the time allowed for an address on a subject of so vast material and of so much importance compels me to cut short and to neglect the affections of the skin, of the mucous membranes, of the bones, and of the other organs, produced as a result of the inherited syphilis.

In most of the cases paternal syphilis is treacherous on account of its latency; both parents appear free from symptoms and yet there still remains the persistence in the transmission of the hereditary luetic taint.

In the prophylactic treatment for hereditary syphilis the attention of the physician is directed mostly towards the woman, and she is usually subjected to the specific treatment. When she is infected we may accomplish a great deal by a prophylactic treatment, and so, as Napp[1] stated, preventive treatment in pregnant women is absolutely necessary, for with this treatment we can prevent and cure syphilitic placentary diseases.

In some cases referred to above we have shown that the treatment of the mother was of no benefit, the fetus died *in utero.* In these cases the father is to be placed under treatment, a treatment which has to be renewed throughout many years. The saltuary transmission of syphilis in the children of a syphilitic father stands as a witness of this necessity.

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[1] Napp, H.: "Zur Frage der Vererbung der Syphilis." Arch. f. Derm. und Syph., Bd. 70, page 263.

We can repeat the words of Pinard,[1] who, in the discussion on general paralysis from syphilis, urged that physicians should devote more thought to the preservation of the species from syphilis. He claimed that the profession has accomplished a great deal in preserving the wife from contamination, but it has paid little attention in preserving the offspring. The birth of a healthy child is not a decisive proof that the father has been finally cured of syphilis. Every syphilitic who wants to have healthy children should take a "heredity course" of mercurial treatment supplementary to the course already taken. Pinard recommends that a husband who has been luetic and has undergone good treatment, although free from any trace of syphilis, if he wishes to procreate healthy children, should undergo six months more of mercurial and iodic treatment. He orders the repetition of the same treatment before the procreation of each child. He claims that he has never had a failure, and with this method he claims that the race may be protected from the ravages of syphilis.

In our experience, when we have given treatment to the mother alone, the result on the offspring has usually been a failure. When we have subjected both parents to treatment before procreating, we have obtained gratifying results. In many cases where the father has been syphilitic and the mother has always been well, we find some difficulty in inducing him to resume treatment. This difficulty has to be overcome by the presentation of the possibility of future consequences on the offspring and on himself. It is only with an intermittent, systematic and well-directed treatment that we can expect to be able to avert so serious and cruel results in innocent children.

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[2] Pinard, A.: "Discussion sur la paralisie generale de la Syphilis," Bulletin de l'Acad. de Medicin, April 22, 1905. Paris. An. lxix, No. 10, March, ref. Journ. A. M. A.

THE MEDICAL ASPECTS OF APPENDICITIS.*

BY JOSEPH EICHBERG, M D.,
CINCINNATI.

A word of explanation, I might almost say of apology, seems necessary in justification of my position before you. The invitation to address so representative an audience was extended but two days ago, and the limited period of time should be regarded in taking measure of my shortcomings. Having rather precipitately accepted the responsibility, the subject having been duly assigned, it seemed but a natural query to ask, "What are the medical aspects of appendicitis? Are there, indeed, *any* medical aspects of this affection?" Not gifted with prescience nor any of the faculties conferred by the black art, it would yet not be hazardous to say that, before this meeting has adjourned, we will be told in a paraphrase of Webster's famous climax, by our surgical friends—and sure "they are all honorable men"—that surgery and appendicitis are "one and inseparable, now and forever." If we concede this point, then the only medical aspect of appendicitis is the diagnostic one; and the eminent clinician, recognizing the nature of his trespass, has merely to announce the nature of the ailment, express his regrets and summon his untiring, aggressive brother to free the patient from this useless and troublesome incumbrance.

Advisedly has the first place been given to a consideration of the medical aspects of the disease, seeing that the medical man is usually the first to be summoned in the ordinary course of an attack. His is the responsibility of analyzing the symptoms and of reaching a definite opinion as to the nature of the malady; his, too, the advice that calls for surgical intervention in a very large percentage of all cases. It is but too true that in the matter of treatment there comes to him now and then the experience of the traveler, visiting a small country town, who asked a boy at the station which of the two hotels in the village he had best select, and received the comforting reply: "It don't make any difference, whichever one you go to, you'll wish you had taken the

* Read before the Councilor Meeting, Cincinnati.

other." Some cases do well with surgery, some do badly with surgery, some get well with medicine, and some are inconsiderate enough to get well without attention of any kind, and in the cases which do not recover, how natural to wish we had done the other thing! Not always with more promise of happier results!

Coming down, then, to our limited sphere of usefulness, clinically the diagnosis interests us first, if not most. It will be conceded that the diagnosis of appendicitis is not always easy. The surgeon will dispute this statement, too, saying that he has no trouble in the matter —after the incision—although the patient may be excused for not sharing a scientific curiosity which has for its motto, "This will bear looking into," and which suits its actions to the words.

The ordinary symptoms relied upon are pain, fever, constipation and tumor. None of them is absolutely characteristic, and most of them may be absent in grave cases. Some text-books place great stress upon the temperature, yet it is a very fallacious guide. Moderate fever, preceded by rigors, or by a chill of great severity, is common, but a perfectly normal temperature, or one slightly subnormal, is not unusual in cases whose gravity is often disclosed at operation, so that neither the height of fever nor its fluctuation can be rightly interpreted as indices of the progress of the case, nor should a decline in temperature lull the attendant to a sense of false security. It is well to keep records of the temperature, but the greatest care is necessary in drawing inferences. In recurrent cases there may be a continued fever not unlike some of the irregular forms of typhoid, and cases seen for the first time in this stage are apt to be very puzzling. True, the Widal may be negative, and leucocytosis very slight or absent, but that excludes neither affection; there are no rose spots and the spleen of normal size; a history of illness extending over an indefinite period, say several weeks, is also compatible with either hypothesis. Slight tenderness in the right iliac fossa, an increased rigidity of the abdominal walls, even the presence of recognizable tumor and thickening in the cavity, is more likely to accompany inflammation of the appendix; but then the lymphoid tissue of the appendix often shares in the ulcerative lesions of typhoid, and I know of two cases where an appendix was removed with a certain portion of the gut for what was distinctly a typhoid infiltration. We cannot reach conclusions at once—not even with the help of the diazo-reaction, or the typhoid tongue, or the absence of mental obtundity. What then? Shall we wait? Is not this the most fatal, the most venial fault? Should we not act upon the suggestion of Macbeth, "If it were done, when 'tis done, then 'twere well it were done quickly." Yet taking the fever alone into account, would I urge delay, unless other symptoms clearly point to operation. In neither of the cases of typhoid above referred to as treated by operation was the result a very happy one for the patient. A sudden decline in temperature, previously markedly febrile, often accompanies or precedes the evidences of profound collapse.

Pain is doubtless the most striking, constant and characteristic of the symptoms; it comes suddenly, with great intensity, localizing itself at some point, but often radiates in various directions; it is increased by movement, frequently has wave-like accelerations and remissions (possibly connected with peristalsis), and is generally aggravated by pressure from without, the pressure causing the patient to flinch if applied over the familiar McBurney's point.

The pain causes the reflex contraction of the abdominal muscles on the right side, making the abdomen more resistant here; the pain causes the patient to "double up," so that in walking, if he go to the toilet, the body is bent forward and distinctly toward the right side, the right leg being rather shuffled forward, then carried with the usual swing; and "doubled up," too, in reclining, so that the patient lies upon his back, with the right knee, or both knees, up, the thigh being flexed upon the abdomen. The location of the pain is no criterion as to the seat of the trouble, nor does its intensity express the severity of the attack. It may be most prominent in the back, like the pain of lumbago, or in the testicle, or in the region of the bladder, or in the hypochondrium or about the umbilicus. However misleading the patient's own statements, careful examination will generally disclose the greatest tenderness to pressure over the region of the appendix proper. I know of one case where the patient walked about for four days complaining only of pain in the back, and suffered perforation on the fifth day. The pain is likely to become more diffuse as the case progresses, particularly if there be involvement of the general peritoneum; it may simulate biliary or renal colic, has been mistaken, from its position, for hemorrhagic pancreatitis, and is easily confounded with ovarian and pelvic pains in women, often due to adhesion of the appendix to the viscera. This may lead to regular recurrences of pain at the menstrual period, and has, I fear, led at times to needless sacrifice of the ovaries.

Constipation is usually both an antecedent and accompanying condition. It is not unusual to find the acute symptoms apparently started by the efforts of the patient to secure free catharsis through the agency of medicines, self-administered; a performance easily intelligible, if we consider that the increase of peristalsis may determine in the colon and appendix such altered conditions of circulation and of hydrostatic pressure as to convert a smoldering into an active inflammation. The rôle of intestinal stasis in favoring the development of coproliths, by retention and desiccation of inspissated fecal matter, need surely not be amplified. Where constipation has not preceded the attack it may be construed as nature's effort to give rest to an inflamed part, surely a most reasonable procedure; as offering to a purely catarrhal condition freedom from further irritation, and to the ulcerated appendix opportunity for enveloping itself in a protective layer of plastic lymph, or of contracting adhesions with neighboring organs, whereby the weak point in the wall, the seat of present ulceration and of a possible future perforation, will be strengthened, and the danger either delayed or averted. Here, too, we learn from our surgeons that nature has made one of her many mistakes—there should be no plastic lymph, no binding up of the wound, no interruption to free action of the bowels; thus would the patient suffer more pain, and the more readily consent to part with the *corpus delicti*.

The tumor is by no means constant. It may be wholly impossible to distinguish anything like a distinct mass by either abdominal, vaginal or rectal examination. Generally there is, if not a definitely circumscribed tumor, at least an induration of varying dimension, an area of increased resistance to pressure; and here I would make a plea for gentle palpation. It is not necessary to punish the patient for being sick, in order to reach a satisfactory conclusion; the palm of the hand applied uniformly and gently over the abdominal wall, with the tips of the fingers seeking merely to indent the muscular layers, with no effort at deep or sudden pressure, will afford information not to be obtained by more abrupt or forcible methods. The tumor may give the sausage-like outline, in chronic cases, or it may, rarely, betray an ill-defined sense of fluctuation, being then covered over by a distinctly edematous wall of the abdomen, or it may feel no larger than a cherry or a walnut. Not even the existence of tumor will protect from error. In a case of stomach trouble under my care for a year past there appeared recently a distinct tumor in the right iliac fossa, apparently as large as one's thumb. Distinct paroxysmal attacks of pain had preceded, separated by intervals of several months. With the last attack there was fever, and the tumor was distinctly sensitive. With the diagnosis of appendicitis, concurred in by the patient's own physician and by the surgeon in charge, the case (a young man of twenty eight) was brought to operation, and the mass was found to be a malignant growth involving the colon and ileum, but mainly extending along the retroperitoneal lymphatics upwards and backwards toward the vertebral column.

Of other important symptoms, to me the *most* important, I would mention the pulse and the facial expression of the patient. The pulse is the most acute barometer. Increase in its frequency, a fall in its force, are the indices of danger; it is almost the most certain of any of the symptoms. It gives us the chance to determine the differences between the quick, rather hard but infrequent pulse of peritoneal irritation, and the rather thin, frequent, compressible pulse of failing heart power from toxic absorption. It should be taken frequently and its quality carefully noted.

The facial expression, too, affords most important clues. It almost uniformly gives an indication of pain, but there is an indescribable suggestion of anxiety, of intense preoccupation, almost of fear, which to the experienced eye spells danger long before we have the classic Hippocratic countenance; fortunately, long before, because the Hippocratic countenance is the concomitant of fecal absorption from the peritoneal cavity, and as such means perforation into the general sac and inevitable collapse.

Vomiting is another grave complication; in the early history it may be slight or persistent; with perforation it becomes continuous, and assumes a more or less pronounced fecal character.

Strangury, or frequent micturition, may be encountered; in one of the marked cases under my care seminal discharges were noted for three or four days; if, as sometimes happens, the appendix find its way into one of the hernial canals, the symptoms may be those of strangulation. Tympanitic distention of some degree is the rule. The intellect is unclouded, even in desperate cases, almost to the last. The average duration of acute attacks not attended with gangrene or perforation varies from ten to fourteen days; the seventh day generally witnesses an amelioration.

Difficult as the solution of the problem may become in adults, the difficulty becomes immeasurably enhanced in dealing with children. Here the physician is restricted wholly to objective symptoms; degrees of pain are liable to be enormously exaggerated. Terror and apprehension interfere with the examination, and the history to be obtained from the family as to error of diet, or unusual indulgence, is often purposely misleading. There is, of course, the frequent occurrence of infantile colic to confuse the diagnosis, but it may be accepted as well established that even in children of very tender age inflammation of the appendix is a frequent source of abdominal pains. Lobar pneumonia, developing near the diaphragmatic surface and unrecognizable for several days by any physical signs, may be attended by pain in the abdomen, fever and nausea, identically the same symptoms as usher in the attack of appendicitis.

In the inability of the child to definitely localize its pain, even where the patient is willing to afford all possible assistance, another difficulty is to be met. It is in children especially that certain sources of error arise; as the reference of the pain to the bladder or the inguinal fold, and the rigid flexure of the thigh lead, on the one hand, to a suspicion of genito-urinary trouble, on the other to that of hip-joint disease. Rectal examination, aided by gentle pressure over the abdominal wall, will often disclose distinct induration toward the roof of the pelvis on the right side and thus settle all doubt.

Comes now the important question of treatment. There are some cases in which the march of events is so rapid that even to one of only moderate experience no course save surgical interference would appear justified. A young man of twenty-eight, of exceptionally vigorous physique, who had been at a roller-skating rink the previous night, partook of some rather indigestible lunch at the close of the entertainment, and then went home. He slept soundly through the night, and proceeded to his business the next morning. While at work he was suddenly seized with an abdominal pain so severe that he was obliged to go home. He connected his trouble with the imprudence of the previous night, and thought that rest in bed would soon bring relief. The pain lessened somewhat, so that he managed to drag himself, toward evening, to my office, a distance of one and a half blocks. It was evident that he was seriously ill, and he was urged to get back to bed as quickly as possible, and not to leave it on any account. He passed a rather restless night, and, disregarding the advice, arose in the morning and attempted to go down stairs to breakfast. The pain became much greater, and when I saw him his suffering was extreme. The pulse-rate rose steadily through the morning, and the first proposition of an operation having been rejected, it was only later, during the manifest increase in the gravity of the symptoms, that consent was obtained to open the abdomen. The operation was performed in the afternoon, twenty-four hours after onset of the initial symptoms, and a gangrenous, perforated appendix found, lying free in a cavity containing several ounces of brownish foul-smelling liquid; the cavity, however, was perfectly walled off from the peritoneum. The wound was drained and healed slowly. In this instance there could have been no hesitation as to proper procedure. Yet many cases will always leave the responsible physician with the regret that, whichever line of treatment he may adopt, he did not try the other way.

Is there a medical treatment? With all

due deference to many earnest and honest men who hold a contrary opinion, I think there is. It is an old axiom, good for all times and in all parts of the body, that where there is an inflamed tissue it should receive rest. The inflammation in and about the appendix furnishes no exception to this teaching. The first protection against the one great danger, that of extension to the general peritoneal cavity, is given by nature herself, in the readiness with which the peritoneum immediately surrounding the inflammatory focus throws out a layer of plastic, adhesive lymph. The production of this lymph occupies but a few hours, as shown in the case just quoted, and will certainly be facilitated—the adhesion to neighboring organs strengthened—by reducing to a minimum the peristaltic action of the bowel. In part we accomplish this by placing an ice-bag on the abdomen, which, in addition to such local action as it may possess, has the great additional virtue of keeping the patient quietly upon his back, thus favoring rest for the inflamed organ; in part, we accomplish it by following Ochsner's plan of absolute starvation for a few days, for the peristaltic wave we desire to control begins at the pylorus and travels on; so long as the stomach is empty the physiological stimulus to peristalsis is withheld; in part, we accomplish it by the use of morphia, which I would give early enough, often enough, and in dosage large enough to control pain; the incidental control of peristalsis is no disadvantage to the patient. The early teaching of Alonzo Clark showed the remarkable tolerance for large doses of opium in peritoneal inflammation; but we need not employ the drug for any other indication than the relief of pain. It is pain which depresses; it is pain which sometimes kills. Nor can I share, in any particular, the fear of those who would see in its use, in any dosage, a great danger, namely, that it would mask the symptoms—I believe that is the correct expression—and thus deceive both the physician and the patient. If it deceive the patient into feeling more comfortable, he will hardly complain of that; if it deceive the physician in his objective examination, there may be something wrong with the method of examination. Above all things would I discountenance the frantic hurry to unload the bowel, which seems to be regarded as needful by some physicians. Let us give nature the chance to circumscribe the seat of danger with a wall of lymph; it will only make our intervention more easy and successful. I have not had occasion to regret leaving the bowel to take care of itself, but I have seen active purgation bring on prompt disaster. If the case do not call for immediate operation, no harm will be done by allowing the bowel to rest for thirty-six or forty-eight hours. The colon can then be unloaded by a simple enema. It has seemed to me to be of some advantage to give from the start very small doses of calomel, one-tenth grain, at intervals of two hours; where morphia also is given, and it is used in all my cases, the two remedies seem to go well together. The mercurial salt seems to control the tendency to dryness of mucous membranes, so commonly noted after the use of opium and its derivatives; and the morphia lessens whatever chance there might be of salivation, a result I have never observed. All food is withheld for at least forty-eight hours, small quantities of water, not too cold, being given from time to time, a tablespoonful every half-hour. It is a plan of treatment that has carried many cases through their primary attack in the course of six or eight days, and left the quesion of an interim operation to be settled after proper consideration; it has to my knowledge not only carried the first attack to a successful issue, but it has averted the necessity of operation in a number of cases which have not had more than the primary attack; it is a surgical fallacy to assert that one attack of appendicitis necessarily means more. If the cases be of the fulminant type and perforation have occurred simultaneously with the onset of the symptoms, not even surgery is likely to save the patient; in any case less grave the delay of twenty-four hours is not a loss to the patient. We do not trust to luck; the case must be watched carefully as to pulse, respiration, facial expression and local conditions; and from these deductions can ordinarily be safely drawn, as to whether the interests of the patient require more than the purely medical treatment.

For indigestion of infants, rectify diet, and give bismuth with soda, milk and lime water.—*Med. Summary.*

PATHOLOGY OF TYPHOID FEVER.*

BY J. E. GREIWE, M.D.,
CINCINNATI.

A few weeks ago I received a message from our worthy President, asking me to present the pathology of typhoid fever in an address limited to ten minutes. I am sure he could not have been in earnest, and that he simply wished me to be very brief.

I take up this task with a great deal of hesitancy, because there are so many important and interesting conditions in the pathology and the pathological anatomy which must necessarily be neglected under the circumstances. I cannot dwell upon the recent views as to the probable relationship existing between the typhoid bacillus and other organisms existing in the intestinal tract. I cannot even mention the probable modes of infection, nor can I speak of the alterations in the blood of typhoid fever patients, subjects which for themselves would demand the entire evening for their presentation.

However, in the limited time I shall take the opportunity of calling to your minds certain lesions which are characteristic of typhoid fever, and at the same time call to your attention the absolute necessity of not overlooking alterations in other organs, the presence of which have a vast influence in the prognosis of typhoid fever.

At the meeting of the American Medical Association at Atlantic City last year, there were three subjects particularly which seemed to hold the attention of the clinicians. First of all, arterial sclerosis; then gastric ulcer, its etiology and treatment; and, in the third place, the treatment of typhoid, *perforation* and *hemorrhage.*

In view of the important position which these two complications are assuming in the minds of medical men, I presume I had better confine my remarks to what is generally known and accepted on the subject of the pathological anatomy of the ulcerations of the intestines, satisfying in this way the desire for accurate knowledge on the part of the surgeon in that most decidedly fatal complication of perforation. However, I feel that it would be manifestly unfair to overlook certain other anatomical conditions, which we usually look upon in the light of complications, but which nevertheless occur so frequently and which have so much to do with the fatal termination in many cases, and which are always of grave significance, that they must be placed side by side and studied with just as much zeal as are the intestinal lesions of typhoid fever. I can devote no time, you will understand, on this occasion to the lesions as we find them in the liver, in the biliary ducts and gall-bladder, lesions which may give rise to serious complications long after the typhoid fever has subsided. Nor can I more than briefly remind you of the tendency toward the development of pneumonia in typhoid fever.

The alterations which take place in the blood are, again, subjects for a much more serious consideration. There is, as you know, a definite and well-marked tendency toward alterations in the intima of blood-vessels, which, in connection with the alterations in the blood serum and white corpuscles, produce conditions frequently resulting in the formation of inflammatory thrombi.

Again, every practitioner will recall the frequency of organic changes in the heart. My own experience at the City Hospital has shown the fact that pericarditis is a rather frequent occurrence; myocardial degenerations are of not infrequent occurrence, and thrombosis of the coronary arteries has been repeatedly demonstrated, leading to fatal consequences.

A subject to which I wish to call special attention, however, is the frequency with which we at the City Hospital have met nephritis in various forms. According to Curschmann, a true acute nephritis occurs in about 1 per cent. of all cases of typhoid. There occur, however, in connection with typhoid, kidney lesions, the origin of which, in all probability, antedates the typhoid infection; and it is to these that I wish to call special attention, because a typhoid infection in a patient who is already the subject of a chronic nephritis is a condition associated with the most serious consequences.

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* Read before the Academy of Medicine of Cincinnati, April 17, 1905.

Some years ago, in opening the new laboratories of the Cincinnati Hospital, I was able to demonstrate specimens of a case of nephritis in typhoid, in which we had evidences of an old interstitial inflammation with a marked acute involvement of the surrounding tissues and the presence of clumps of typhoid bacilli in the tubules. The fact that an involvement of the kidney may change the whole course of the disease in typhoid was well demonstrated in this instance. The patient, a colored woman of about thirty-five years of age, was admitted to the ward of the City Hospital with a temperature of 105° F., and in spite of all efforts to reduce this temperature, the disease progressed, the temperature rising from 106°–107°, and on the fifth day of her stay in the house to 108°, with a fatal termination. I am able to demonstrate to you to night the intestines from this case, and to show particularly the severity of the kidney lesions. It is conceded by all, I think, that when we have the kidneys affected to such a degree in so serious a disease as typhoid fever we have complication of the gravest possible kind. In this most interesting case I was also able to demonstrate the presence of the typhoid fever bacilli in great numbers between the cells of the intestinal ulcers.

I feel that I should not occupy more of your time in view of the fact that three other members of the Academy are to speak to-night, and I shall therefore present to you a dozen specimens showing the intestines in various stages of the disease. I direct your attention, in the first place, to specimens showing involvement of the duodenum. Other specimens show Peyer's patches in the state of engorgement, swelling and ulceration. In some of these the solitary follicles are involved to a marked degree. In others Peyer's patches have become confluent. In the vast majority of these specimens, where ulceration has taken place, it has extended down to, but not through, the muscular coat. In one very interesting specimen the macroscopic appearance would lead one to believe that we had to deal with tubercular ulcers of the ileum, the ulcers being transverse instead of lying in the longitudinal diameter of the bowel. You will notice in this case that the ulceration has for the most part extended deep down into the muscular tissue, and in two of these ulcers you will be able to detect perforation through the peritoneal coat. The case was operated on by Dr. Dandridge at the City Hospital, a perforation having been found just above the ileo-cecal valve. A second perforation occurred about eight inches above the first, shortly after the operation, leading to a fatal termination. In a number of these jars you will also find specimens taken from these patients who died from complications some time after the typhoid infection had run its course. They show most beautifully the "shaven-beard" appearance of healed typhoid lesions.

It will be of great interest to all medical men, but more particularly to surgeons, to note the statistics given by H. Curschmann of 577 autopsies. The localization of ulcers was as follows:

Ileum	510	88.39 per cent.
Cecum (often involving appendix)	247	42 81 "
Colon	184	31.89 "
Jejunum	41	7.10 "
Rectum	12	2.08 "

Others report involvement of colon to the extent of 40.3 per cent., 40.7 per cent., 24 per cent.

Out of this total number, 577, Curschmann reports perforation with consecutive peritonitis in 13 per cent. of the cases. English and French authorities report 13.8 per cent. of perforation in their fatal cases.

As to the seat of perforation, out of 64 perforations:

Upper part of ileum	5
Lower part of ileum	39
Region of ileo-cecal valve	7
Appendix	1
Colon	11
Rectum	1

I will conclude by throwing upon the screen with the projection microscope preparations made during the past few years, showing the involvement of Peyer's patches and solitary follicles. Of special interest in this collection of microscopic preparations are those slides which show the ulcers of fatal hemorrhagic cases, and also specimens showing almost complete restoration of gland tissue in cases of healed ulcer.

CLINICAL HISTORY OF TYPHOID FEVER.*

BY ELIZABETH CAMPBELL, M.D.,
CINCINNATI.

It has been said that "typhoid is not only an imitator of disease, but many diseases imitate typhoid." When we try to formulate a clinical picture, which we hope to make classical, of the prodromal and beginning periods, as well as the ultimate course of the disease, we are quite ready to agree that there are indeed many spurious states which borrow their clinical coloring from typhoid. And as different organs of the body bear the brunt of the infection, it is quite comprehensible how the various manifestations simulate other diseases. So marked is this tendency of selective action by the typhoid bacillus, it was formerly thought proper to speak of neuro-typhoid or nephro-typhoid, or pneumo-typhoid, when in reality it was simply typhoid with headquarters in one or the other of the various organs. Because of the deviation from straight and narrow diagnostic paths, it seems the better part of valor not to pronounce a disease typhoid upon the appearance of a few of the earliest signs, but await the symptom-complex for confirmation of the suspicions, in the meanwhile caring for the patient as though the disease was certainly enteric fever.

This is often hard advice to follow, as the prodromal malaise, history of headache, backache, loss of appetite, constipation, the facial expression of the individual who presents himself for examination, the furred tongue, the elevation of temperature, possibly slight, the lesions of throat or bronchial tubes, often an accompaniment, the complaint of langour, and of dull, stupid sensations impossible to shake off, conjure up at once in the mind an image which involuntarily is named—typhoid.

It is often of the utmost importance that an early diagnosis be made, hence positive proof is most desirable. One of the most valuable points in the first examination is to secure the exact date when the patient began to feel really sick, when all the previous indefinite symptoms seemed to culminate in positive indisposition. This data can be made of use, if we reason that the prodromal period often overlaps the febrile stage, and the patient, when first consulting the physician, may be in the developing period. Should this be true, the first positive diagnostic test may be applied, viz., finding the bacilli in the circulating blood. The diazo reaction has fallen into disrepute largely because we find it in so many other pathological states; it is of value in a negative way, however, declaring against typhoid if not present. Rolleston (*London Lancet*, February 4, 1905) speaks of its disappearance in the second or third week, coinciding with the commencement of lysis, and reappearance after lysis as indicative of relapse. The trend of opinion has been against finding changes in the blood in the early days of typhoid, but Dr. Higby (*Medical Record*, September, 1903), in an interesting series of experiments, has demonstrated the characteristic leucocyte count within the first week. However, these methods require expert laboratory assistance, which is more often than not unavailable. Indeed, it is doubtful if their discussion has a place in a paper entitled "Clinical History," but in these days of exact medical inquiry it is difficult to get away from laboratory findings. Without them there seems to be no certainty except by watching and awaiting the completed list of symptoms.

Dr. Simon Baruch (*N. Y. Med. Journal*, September 2, 1893) long ago claimed that we should not remain in the dark after the temperature had run a three-days' course. His method of procedure is a bath at 75°, with friction for fifteen minutes. If the rectal temperature does not succumb by two degrees to such treatment, typhoid is assured.

Frequently the disease asserts itself with violence after a very short prodromal period, and thus may simulate other morbid states.

Two cases the past winter came under my notice which had been diagnosed as typhoid, but proved to be lobar pneumonia, and I find Dr. Goodall, in the "International Annual," makes the statement that of all the diseases which are mistaken for typhoid and sent into the hospitals as such, lobar pneumonia easily heads the list. This seems strange, in view of the fact that typhoid is rarely ushered in with a distinct chill and such immediate severity of symptoms, and yet goes to prove the wide diversity of its beginnings.

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* Read before the Academy of Medicine of Cincinnati, April 17, 1905.

Well into the first week or stage of development we see an increase in all prodromal symptoms. Epistaxis occurs in a large per cent. Prostration begins, the temperature assumes its ladder-like curve, the spleen is manifestly enlarged, there is anorexia, thirst, hot dry skin, and increased constipation. The pulse shows a lack of relation to the temperature, slower than might be expected and very often dicrotic.

Blood pressure has been studied during this early developmental period. Dr. Elsner (*Medical News*, January 2, 1904) states that as typhoid fever is a hypotonic disease, the study of blood pressure throughout an attack materially aids in diagnosis of complications, inasmuch as the pressure rises suddenly when abdominal trouble begins. It is further interesting to note that an albuminuria appearing during an attack of typhoid with previously existing lesions of the kidney will show a much higher blood pressure than if the nephritis is simply an acute condition produced by the infection.

It is the second stage of the disease, frequently called the "fastigium," that forms the true battle-ground, and hence is of most intense interest. The fever remains high, the nervous system is more and more invaded until mental dullness gives way to mild delirium, or even ravings. Diarrhea begins, as a rule, and about the eighth or ninth day of the disease the first pathognomonic sign arrives—the historic rose spots. They appear on the lower thoracic wall and abdomen, usually few in number, but occasionally thickly scattered over the entire trunk and portions of the extremities.

The eruptions of typhoid are varied, displaying frequently an erythematous blush in the late prodromal or beginning developing stage, and from this ranging through all grades of papular eruption. At times these may be capped with small vesicles. Desquamation is much more frequent than is generally supposed, and when it appears confusing the diagnosis with the suspicion of a coexisting scarlet fever.

Riesman (*American Journal Med. Sciences*, January, 1904) divides the desquamations into three classes:

1. Desquamation confined to rose spots.
2. Desquamation appearing as a sequel to sudaminal eruption. (Sudaminal eruptions, however, have been relegated to the past, with sordes of the mouth, if the patient is properly bathed.)
3. General desquamation produced by trophic changes, analogous to the falling of the hair.

While the skin manifestations are without importance so far as their relation to the severity of the disease, the desquamations coincide with the height of the fever.

During the third week of the disease the abdominal symptoms assume the greatest importance. Tympanites and tenderness develop, and with increasing diarrhea and exhaustion the dangers from hemorrhage and perforation are great. In order to be on guard against such occurrence, any trustworthy sign of their approach is welcomed. Traces of blood in the stool entirely too small for observation can be detected by the aloin test originated by Rossel (*Deutsch. Arch. f. klin. Med.*, Bellin, September, 1903). The discovery of the occult hemorrhages, together with a marked increase in the pulse-rate, foreshadows severe hemorrhage. A sudden sharp pain in the abdomen is sufficient to cause a strong suspicion of perforation, and without waiting for any confirmatory signs the surgeon is called at once. During this period the stools and urine are laden with bacteria, and a most practical part in connection with this fact is the disposition of the urine. The stools are carefully disinfected, but often this precaution is neglected in dealing with the urine.

The general muscular system shows the effect of the strain, and especially do we find this true of the heart. If carefully watched and comparatively studied, the gradual diminution of strength and slight enlargement of the heart will rarely be found wanting.

Of course, throughout the second stage conclusive proof of his correct diagnosis is furnished by the Widal test, and also the added information furnished by the blood count.

In typhoid cases the beginning of the fourth week ushers in a gradual fall of temperature, and a general movement toward convalescence. This is necessarily protracted because of the wide area of destruction and the consequent severe prostration. During this time we find post-typhoid neuritis, and very often the swollen leg after phlebitis, to contend with, along with other minor legacies left by the infection. The various types of this fever, as well as the studies in paratyphoid, are of absorbing interest, but scarcely within the scope of this paper. In closing, I should like to draw attention to a most interesting discussion by Dr. W. S. Rucken of "Differential Diagnosis of Typhoid Fever in Its Early Stages" (*Journal Association of Military Surgeons*, September, 1904). His summary is as follows:

1. There is no single symptom on which alone an early diagnosis of typhoid fever can be made.
2. The most trustworthy as well as the earliest sign is the presence in the circulating blood of the bacillus of Eberth.
3. The bacillus is found in the feces later than in the blood, but with comparative ease.
4. The presence of the bacillus in the rose spots is a trustworthy sign, but has no advantage over examination of the blood from other localities.
5. The serum reaction of Widal is seldom demonstrable in the earliest stages, and is of value only in the higher dilutions.

TYPHOID FEVER TREATMENT.*

BY JOHN H. LANDIS, M.D.,
CINCINNATI.

An ideal treatment for typhoid fever, one that will be to that disease what antitoxin is to diphtheria, has not yet been discovered.

Anti-typhoid inoculations have been made, anti-typhoid extracts and serums have been employed, but the results obtained very surely demonstrate that an ideal treatment remains an unsolved problem.

In the British army anti-typhoid inoculations apparently conferred a degree of immunity to those inoculated.

Einhorn reports ten cases treated with anti-typhoid extract, and concludes that, while the disease was not materially shortened, the use of the extract was followed in from twenty-four to forty-eight hours by a reduction in the temperature. As treatment in these cases was not begun until from the ninth to the fifteenth day, it is obvious that too much importance should not be attributed to the extract, as a decline in temperature at this period of the disease is to be expected in the majority of cases.

Serum therapy as tried by several others is reported on favorably by them, but the limited number of cases so treated makes impossible any positive opinion as to its value.

There is no disease in which the old proverb—"One swallow does not make a summer"—can be more truthfully applied.

In a review of thirty-nine papers on the treatment of typhoid fever by Dr. Frank Billings, of Chicago, considerable doubt arises as to the correctness of the statement made by Osler that "the profession was long in learning that typhoid is not a disease to be treated by medicines."

After reading this review the following list of drugs, alone or in combination, as a routine treatment or to meet some specific indication, was obtained: The sulphocarbolates, calomel, bichloride of mercury, chlorine, turpentine, salol, acetozone, charcoal, acid sulphate of soda, castor oil, guaiacol, eucalyptol, podophyllin, thymol, blue mass, arsenite of copper, salicylate of ammonia, ipecac, opium, pilocarpine, hydrargyrum cum creta, strychnine nitrate, ergot, hypodermoclysis, gelatine injections, calcium chloride, adrenalin, antipyrine, mustard to the nape of the neck, guaiacol locally, pyramidon, citric acid, carbonate of ammonia, tr. senega, soda, digitalis, strophanthus, gelsemium, nitrate of potassium, camphor, hematoxylin, bismuth, morphine, sweet spirits of nitre, tr. iodine, and oil of wintergreen.

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* Read before the Academy of Medicine of Cincinnati, April 17, 1905.

If this list is placed on exhibition as evidence that the profession *has* learned that typhoid fever is a disease not to be treated by medicines, then it would be interesting, were it not for the limitations exacted by "time and tide," to take a week or ten days in wandering leisurely through the list of remedies recommended in the good old days before therapeutic nihilism became rampant.

The list leaves one with the impression that typhoid fever is a hydra headed monster, and that each individual head must be assaulted with an appropriate therapeutic club.

In recent years several methods of treatment have had their earnest advocates.

Some have taught that the bacillus should be eliminated by the use of cathartics, an idea impossible of accomplishment, since it is found in every organ, tissue and fluid of the body.

Others have given antiseptics, the idea being to destroy the bacillus in the intestinal canal. Were it possible to do this the battle would not extend beyond the skirmish line, and the main body of bacilli not free in the intestinal canal would carry on the war unopposed.

In any acute infection rules of treatment flexible enough to meet the varying conditions in different cases are of value.

In typhoid fever the surroundings of the patient are of importance. A room bare of furniture, except that absolutely needed in caring for the patient, free from pictures and bric-a-brac; one admitting fresh air and sunshine abundantly; a good bed and clean linen, and a nurse who has learned that speech is to silence as silver is to gold, and that the "Heaven-born ratio of sixteen to one" is peculiarly apropos in typhoid fever, give practically all that is desired.

Visitors' day in public hospitals has long since demonstrated the value of excluding friends and acquaintances from the sick-room.

The pathological changes in the bowel and the body at large should be taken into consideration when the question of diet arises.

The mucous membrane, in a state of catarrhal inflammation; Peyer's patches and the solitary follicles, necrotic and sloughing; lymphatic vessels blocked and glands inflamed and swollen; secretions, vitiated or suppressed, digestion and assimilation at a standstill; the liver staggering under its load of toxins; retrograde metamorphosis running riot everywhere; the central nervous system, the controlling power over all this, deriving its nourishment from blood, poor in its natural elements, rich in those favoring destructive degenerative changes.

Rest, not food, is suggested by this pathological picture.

Anorexia under these conditions is to be expected, and may be regarded as nature's mute appeal that the load be not increased.

For several days food in small quantities or entirely withheld, but with water given generously, will do much toward aiding nature in partially regaining the lost balance.

Rest to the bowel would seem to be demanded throughout, and the simpler the diet and the less varied, the more absolute it becomes. For this reason a milk diet given not oftener than every four hours and suspended during sleep, with a plentiful supply of water, would appear to be as nearly an ideal diet as the conditions will permit. After a week or ten days of normal temperature, eggs, broths, custard and later on solid foods may be cautiously added.

Fever above 103° calls for an antypyretic, and the coal-tar preparations given in small, frequently-repeated doses answer admirably in the great majority of cases. When necessary, because of undue depression of the heart, cold-water injections into the bowel will more quickly reduce fever, with less disturbance to the patient, than plunges, cold packs and cold sponging.

Delirium, with sleeplessness, can often be ameliorated and refreshing sleep obtained by rolling the patient in a warm wet sheet, leaving the arms free.

Tepid sponge baths add to the comfort of the patient and improve the action of the skin. The mouth should be kept clean by the use of mild antiseptic washes.

Diarrhea, when excessive, probably means the presence in the bowel of undigested food.

Following a suggestion found in Ringer's work on therapeutics, it has been my habit for a number of years to employ small, frequently-repeated doses of acetate of lead in cases where meteorism was a prominent symptom. It is always a symptom of evil omen, and it appears logical to believe that if acetate of lead will relieve this condition it should prevent its development.

Working on this theory in the male typhoid-fever ward of St. Mary's Hospital during the past twelve months, acetate of lead has been given in small, frequently-repeated doses (one-tenth of a grain) throughout the fever and until convalescence is well established.

Unless some complication demanded other medication this has been the only drug used. In the great majority of cases meteorism has not been present. When acetate of lead failed it was promptly relieved by leaving inserted in the bowel the short hard-rubber rectal nozzle of a fountain syringe.

In these cases delirium has been almost unknown, diarrhea rare, a decline in the temperature below a point where antipyretics were necessary was reached in a few days. The average duration of fever in twenty-six cases was a fraction over fifteen days. Nine cases relapsed. Three had pneumonia; two, involvement of both parotids; one, a perforation, followed by a rapidly fatal peritonitis; and one had a hemorrhage. This case passed out of my hands by reason of a change of staff officers. At that time the pulse was 80 and temperature 100°. In two days the fever arose to 107° and death followed. A careful investigation has failed to disclose the complication causing a fatal result, but as the case had received the acetate of lead treatment practically up to the date of death, it should be included in the series.

In treating cases complicated by hemorrhage the doctor has in nature an ally he can neither afford to ignore nor embarrass.

A considerable loss of blood is quickly followed by reduced temperature and lowered blood pressure, the last-named condition being Nature's first step toward repairing the break in the vessel by favoring the formation of a protecting clot.

At this stage all methods pursued with the object of increasing blood pressure or of increasing the volume of the blood encourage more bleeding.

Heart stimulants and hypodermoclysis are logical methods of treatment in cases where the bleeding vessel has been tied; they are as positively contraindicated in cases where the only hope of no more hemorrhage is based on the retention of the clot in the ruptured vessel wall.

Absolute rest, the withholding of food and water for at least twelve hours, and the administration of calcium chloride, offers the most encouragement in these cases.

Dr. Billings, of Chicago, recommends this drug highly, and a recent personal experience with it confirms his claims. Briefly, the case was as follows:

Last February 9, R. B., aged eighteen, in the second week of typhoid fever, began bleeding from the gums. The following morning, Thursday, at 2 A.M., blood oozed steadily from the nose. Adrenalin was prescribed locally and internally. At 10 A.M. Thursday there was a large tarry evacuation from the bowels. Similar movements continued during the afternoon and evening, and the general condition became alarming; temperature subnormal, pallor extreme, prostration profound.

Thursday at midnight calcium chloride in ten-grain doses was begun and repeated at intervals of two hours. Intensely fetid black stools were passed on Friday at 1 A.M., 4:30 A.M., 5:30 A.M., 12 noon, 3:30 P.M., 10 P.M., and at midnight. They had gradually grown smaller, however; the oozing from the gums and nose had ceased and the improvement in the general condition was apparent eight hours after the administration of the first dose.

The next movement, which was procured by the use of an enema, was passed at 8 P.M. the following Monday, and was free from blood. The patient made a rather tedious convalescence and has returned to work. In this case the bleeding was very probably by diapedesis.

Cases complicated by perforation of the bowel demand the attention of the surgeon.

Stimulation in typhoid fever is a question of the greatest importance. My personal experience is that the disease is chiefly dangerous because of the multiplicity of its complications; that without perforation, hemorrhage or acute inflammation of some important organ, recovery would occur in practically all cases. The chief danger to the heart lies in a continued high temperature, a condition possible of absolute control.

In this condition—threatened heart failure—treatment should never be addressed to the effect to the exclusion of the cause. The tendency to see effects and overlook causes is responsible for a large number of disasters.

Early and ill-advised stimulation can only accomplish harm. Stimulation by the use of alcoholics I believe contraindicated at all stages of the disease. If the fever be controlled, the diet limited and made to suit the individual case, and the administration of medicines reduced to a minimum, stimulation will almost never be necessary. I believe that the tendency in the past to over-feed, over-stimulate and over-medicate is rapidly giving way to milder methods; that the profession as a body recognize that the disease is self-limited, and that the chief obstacles to recovery are over-feeding, over-stimulating and over-medicating.

SURGICAL TREATMENT OF PERFORATION IN TYPHOID.*

BY N. P. DANDRIDGE, M.D.,
CINCINNATI.

I shall confine myself to the ten-minute limit imposed by the President, and shall speak only of perforation.

All authorities are agreed that perforation in typhoid takes place in the great majority of cases in the last twelve inches of the ileum. Fitz, in 167 cases (Osler), found the perforation in the last part of the ileum in 136, in the large intestine 20, the appendix 5, Mechel's diverticulum 4, and the jejunum 2. On looking for a suspected perforation twenty inches of the ileum should be examined from the cecum, and if perforation is not found, the cecum and appendix should be looked to.

The classical symptoms of perforation—sudden pains, collapse, distension, with diminished liver dullness, fall in temperature and the facies Hippocratica—are well known. Most writers admit that the classical picture is the exception and not the rule.

Of all the symptoms, pain and rigidity are the most frequent; abdominal distension is uncertain, being present in a marked degree in less than half the cases. The clinical picture is that of spreading peritonitis.

In a recent report of 19 cases of perforation from the records of Mt. Sinai Hospital, the leucocyte count rose in 7, fell in 3, unchanged in 6. The leucocyte count is therefore unreliable.

Frequent reference is made to the similarity of the symptoms of perforation and hemorrhage and to the frequency in which the diagnosis, both before and after perforation, hesitates between appendicitis and typhoid. The typhoid lesion may, indeed, be in the appendix, and the abscess from perforation simulate an appendicular abscess. With careful observation, especially in hospital cases, the diagnosis is usually correct, but many mistakes have been made. In one of my own cases a rupture of an abscess in the spleen was found post-mortem, when at the operation the ileum was found without perforation.

Much has been said of the possibility of foreseeing the conditions leading up to perforation, and while the weight of authority seems to indicate that perforation is most frequent in severe cases with more than usual pain and disturbances in the right iliac fossa, all admit that it does occur in very mild cases. For some years past I have made it a rule, with the consent of my colleagues, to watch the typhoid cases in the Cincinnati Hospital, and more particularly those cases which seemed to point to the dangers of perforation. In no case have I been successful in anticipating one. The threatening symptoms have passed away, or the patient has succumbed to an increasing toxemia. Surgical interference in typhoid perforation does not seem to have appealed very generally to the profession.

The frequency of perforation seems to vary in different epidemics. In 216 cases in Mt. Sinai, there were 19 perforations (Manges). In the Cincinnati Hospital,

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* Read before the Academy of Medicine of Cincinnati, April 17, 1905.

1903, the last accessible report, there were 129 cases, 16 deaths, and 1 perforation. Likewise the relation to the number of deaths is stated to vary from 4 to 30 per cent.

Much has been written on the percentage of mortality in perforations not operated on. I am satisfied myself that we are far from any exact information on the subject, and I suspect that typhoid perforation and appendiceal abscess have been mistaken for one another. In my own experience I have opened two cases of circumscribed abscesses from typhoid.

The subject is more than one of academic interest, and has a direct bearing on the question of operation, and of the numbers we really save by surgical interference.

The latest extensive report is by Manges, from the Mt. Sinai Hospital—19 cases. Sixteen cases operated, 11 died—68.75 per cent.; 3 not operated, 2 died—66 per cent. The Mt. Sinai experience may be considered as a high standard of success—31.25 per cent.

Harte and Ashurst's papers have records of 362 cases and include Keen's and Finney's earlier list; there were 97 recoveries, a percentage of 26 per cent. These tables show the success in each year. From 1884 to 1894 the cases were few, and few years recorded any success whatever. In the years 1900, 1901, 1902, with 32, 26 and 37 operations, the mortality fell to 56.2, 57.6, 56.7, while in 1903 there were 25 cases with a mortality of 84 per cent. Harte has recorded 20 personal cases with a mortality of 85 per cent., and Monro 10 cases with 100 per cent. of deaths. Harte's cases were all hospital cases.

Osler gives the statistics of Johns Hopkins—112 cases and 23 recoveries, while in one series of 11 cases of his there were 5 recoveries.

The percentage of recovery in a miscellaneous list of cases is not of much importance. The record of individual operators or hospitals is much more reliable. I doubt whether the later reports give much advantage over the earlier. Success is likely to be greater in hospital cases than in private, though my only successful case was a private one.

In hospital service the medical and surgical service should be in perfect accord—the first on the *qui vive* to give notice of any suspicious symptoms, the latter ready to act promptly, but not prematurely, for many threatening cases recover without perforation.

My own cases are seven in number; in two of these abscesses developing in the course of a typhoid were opened.

Case I.—Seen with Dr. McMechan on account of a severe hemorrhage in the third week of a typhoid. A mass was then discovered in the right iliac region, but not operated on on account of the collapse. The patient unexpectedly rallied, and subsequently the large abscess was drained and the case recovered.

Case II.—Negro, admitted to hospital with diagnosis of typhoid. Diagnosis changed to appendicitis in a few days, with the appearance of a tumor in the right fossa. Operation was made, abscess opened and appendix removed. The blood count was of interest: January 4, leucocytes 12,000; January 10, leucocytes 13,000; January 12, 16,000 (date of operation); January 14, 15,000; January 15, 10,000; January 16, 8,400; January 17, 7,000.

The abscess was opened at the height of the count, and then there was a progressive drop, with rapid amelioration of all the symptoms, until convalescence seemed established, when death suddenly occurred and typical typhoid lesions were found and a large abscess behind the peritoneum. There was, therefore, a progressive abscess in the face of a diminishing blood count.

My first case was operated on in 1894. A boy nine years old, under the care of Drs. Stanton and Mackenzie, at the end of the third week of a well-defined typhoid, suddenly developed the conditions of a perforation—collapse, great abdominal distension, facies Hippocratica. I saw him on the third day, with great distension and disappearance of liver dullness and profound collapse. Incision made in right side; free escape of gas and collapse of belly-wall, followed by a large quantity of foul pus. Cavity washed out with boiled water. Condition such that no prolonged search of either appendix or ileum possible; no perforation found. Drained with gauze and tube. Convalescence slow. While no perforation was found, there can be no doubt of the diagnosis of typhoid, and the case has been accepted by Keen and Finney as one of perforation.

Case II.—A perforation was found near the cecum and closed. A second ulceration about eight inches from valve was discovered, but as the peritoneum was not involved it was left undisturbed. Death occurred on the seventh day from perforation of this ulcer. The first perforation was closed.

Case III.—At the Children's Hospital. Aged ten. Perforation on twentieth day of typhoid and operation twenty-eight hours after onset of symptoms. Perforation near cecum was closed and abdominal cavity washed out and drained. Death within twelve hours.

Case IV.—Was a mistake in diagnosis, the symptoms being caused by a rupture of an abscess of the spleen. Intestine normal in appearance.

Case V.—Perforation a few inches from cecum, with feces and pus in cavity. Death in a few hours. No post-mortem.

One word in regard to exploratory laparotomy and its danger. Harte records twenty-six cases in which there were sixteen recoveries. The danger of operation is therefore not so great as might be supposed, and while operation should not be rashly undertaken, it ought not to be deferred in the presence of marked symptoms. The incision should be made on the right side, the ileum at once looked for and traced from cecum for twenty inches, and if an opening is not found, the cecum and appendix should be looked after. In case an ulcer is found suspiciously near the peritoneum, it should be protected by a covering of omentum or turned in with Lembert's stitches. The cavity should be flushed and drainage established. Operations within an hour of the onset of symptoms have not been successful. Death occurs from shock immediately or soon after operation from peritonitis, or by the toxemia of the continued typhoid.

Of the seven cases, in two typhoid abscess were opened in right fossa and one recovered. The other five cases were all operated on for a recent perforation. There was one, the first, which was a success. In this case the perforation was not found, but the symptoms were so characteristic that the diagnosis must be accepted. In one case a second perforation proved fatal when the patient seemed doing well, and the first opening was found closed. In one case there was a mistake—an abscess of the spleen gave rise to the symptoms.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, MAY 27, 1905.

ALBUMINURIC RETINITIS IN CHILDREN.

The appearance of the fundus oculi in cases of typical albuminuric retinitis is sufficiently characteristic to enable one familiar with the use of the ophthalmoscope to make a diagnosis of Bright's disease of the kidneys. We note the swollen appearance of the disk, the distended and tortuous veins, the reduction in the size of the arteries, the edema of the retina, the exudation around the disk and over the blood-vessels, the hemorrhage spots, and finally the characteristic rays of whitish degeneration that partially or completely surround the macula lutea, like a sunburst. These changes have frequently been found in cases where the patient or the physician who has been treating him were ignorant of the fact that there was serious kidney lesion present, and the oculist has had the painful duty imposed on him of informing the family physician of his finding, causing the doctor to feel chagrin because of his neglect to find the real disease at work in the patient before the case came to the oculist.

We naturally associate albuminuric retinitis with adults, for we seldom find the fundus changes in children affected with

Bright's. Perhaps the reason for this is that the child is less observant of ocular symptoms than adults, and does not notice slight subjective symptoms of albuminuric retinitis.

If the fundus was carefully examined in each case of Bright's in children, it is most likely that we would find the same, or nearly the same, proportion of cases where the retina is edematous and the optic nerve inflamed as in adults.

This is forcibly brought to our attention by the report of two cases recently noticed in the *Ophthalmoscope*, April, 1905, one by Carpenter, of London, and the other by Hobhouse, of London.

Carpenter's case was that of a girl, aged ten, who was suffering from hematuria and acute Bright's disease. There was scant secretion of urine, sp. gr. 1015, albumin one-eighth, pus, blood cells and casts. The fundus changes were pronounced and very characteristic of Bright's disease. The patient lived six months and died from anasarca and exhaustion. A post-mortem showed "large white" kidneys.

Hobhouse's case was that of a child of six and a half years. There was a history of scarlet fever antedating the kidney inflammation three years before the final taking off. The prominent symptoms were convulsions and semi-coma. The urine contained only a small amount of albumin and no casts; sp. gr. 1030. A week after the convulsions and drowsiness the fundus was examined and changes suggesting Bright's disease were discovered. At this time blood was discovered in the urine, but no casts could be found; quantity forty to fifty ounces. Vomiting set in and the patient died a month after admission to the hospital. Just prior to dissolution, the typical picture of albuminuric retinitis was found. The post-mortem showed no disease in the body excepting in the kidneys; these were in a state of chronic inflammation.

Nettleship has seen characteristic al minuric retinitis in ten patients who we under twenty-one years of age, and h seen fourteen other cases in children r ported by others.

Unfortunately, the discovery of retini Brightii by the oculist does not in a way modify the treatment of the pati by the attending physician nor prolo life, but it strengthens the diagnosis, fi the prognosis and is of scientific inter

D. T. V.

GRAFTING OF SKIN FLAPS FOR C TRACTURES DUE TO CICATRICES.

Kennedy, in a recent article,[1] pres the advantages of skin flaps over Thiersch graft in the treatment of c tractures, and illustrates with a case. states that the mere division of a cont ture does not result in a cure, since gap which results from straightening part regularly heals with a reproduct of the deformity. There is but one of restoring the parts in the presenc firm cicatrices to anything like the nor condition, and that is by means of c plete removal of scar tissue followed grafting of a layer of tissue consisting epidermis and cutis vera.

Reverdin's and Thiersch's methods ten healing and reduce the formatio cicatrices greatly, but do not prevent traction entirely. The method of graft the entire skin, originally employed Wolf, in Glasgow, in 1875, and su quently by Krause, of Altona, is undo edly the proper one, since by this met of grafting complete freedom of re rence by contraction can be secured. T method undoubtedly requires a be technique for its performance and perfect asepsis than do the other meth This method is superior to Thiersch because all the normal structures of skin are contained in the graft, whi

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[1] British Medical Journal, April 19, 19

Thiersch's method a mere shaving of epithelium is laid on. The claim of Enderlen that in the processes of healing these skin flaps are gradually eaten away and replaced almost entirely from below has been disproven by subsequent investigations. The hair follicles regularly persist in the transplanted skin.

The author reports a case of backward dislocation of the right thumb due to a contracted cicatrix on the dorsum of the thumb. A piece of skin two and a half by four inches was dissected from the thigh and stitched into the gap from the thumb. The dressing was removed three weeks after operation and the flap was found to have healed perfectly without necrosis. Sensation returned in the graft about seven weeks after operation.

H. J. W.

GOVERNOR VETOES OSTEOPATHIC BILL.

The veto placed by Pennypacker, executive of Pennsylvania, upon the Osteopathic Bill, which has just passed both houses of the legislature, comes as an agreeable surprise to the medical public, for his contempt and indifference to all things looking to the protection of the public in matters sanitary and medical has become a matter of widespread comment. Some of Pennypacker's remarks in his veto message are extremely pertinent. He says at one place:

"The approval of this bill would appear to give the authority of the State to a system of practice in the healing art which excludes the use of medicine and the use of surgery. Why should there be an attempt so to confine the operations of the mind? If both drugs and surgery are useless they may be rejected, but if they should at times be found to be beneficial why should any science for the enforcement of a theory make the effort to exclude their use? *Should the bill become a law, licenses would be issued by the State Board of Osteopathic Examiners* (italics ours) and not by the Medical Council of Pennsylvania, which would be an anomaly in our legislation upon the subject."

We merely offer the remark: "Would not a law that provided for the eligibility of candidates to be passed upon by a board of osteopathic examiners be a splendid thing—for the osteopathic diploma mills?" Pennypacker goes on to say that neither from his study of the bill nor of the statements of the originator of the school can he discover what osteopathy really is. Nor can he subscribe to a bill which prevents regularly qualified physicians from using osteopathic principles in their practice, if they so desire, assuming for the sake of argument that there is any principle of which they might wish to make use. The bill had the temerity to provide that any physician who should attempt to utilize the alleged discoveries of osteopathy should be subject to punishment for ninety days. The sponsors of the bill would have done well to have eliminated such a gratuitous insult, as no regular physician would ever have the slightest desire to encroach upon the domain of these people. The Governor makes one remark that all regular practitioners most heartily endorse. He believes that all engaged in the treatment of the sick should seek the germ of truth at all times and use it wherever found, for which he believes that the business of different schools of medicine is unscientific and not to be commended. Pennypacker has accomplished in this instance a good deed which will compensate to some degree his sins against the medical profession of his State.

EDITORIAL NOTES.

At the thirtieth annual meeting of the American Gynecological Society, held at Niagara Falls, May 25, 26 and 27, papers were read by Dr. Arthur W. Johnstone, "Retroversio Uteri—a New Operation for Radical Cure," and by Dr. C. D. Palmer, "The Present Status of Electricity as a Therapeutic Agent in Gynecology." Dr. Thad A. Reamy was also in attendance and took part in the discussions.

THE so-called Osteopathic Bill was tabled by the Illinois House of Representatives, after an unfavorable report by the Judiciary Committee of that body.

EPIDEMIC cerebro-spinal meningitis is, unfortunately, not confined to this country. Foreign exchanges state that in upper Silesia there were in April about 1,200 cases, with a mortality of 50 per cent. Sixty cases have been recently reported from County Down, Ireland.

INFORMATION from the Panama Canal zone is to the effect that "the inefficiency of the plans and work done by the former commission in pushing sanitation in the canal zone is daily becoming more apparent." Several valuable members of the engineering department are down with yellow fever, and the sanitary officers in charge are making every effort with meagre facilities at hand to insure the safety of the thousands of workmen soon to be employed.

ACADEMY OF MEDICINE.—Monday evening, May 29, will be devoted to case reports, exhibition of specimens, etc.

REPORT of the Bureau of Infectious and Contagious Diseases for the week ending May 19, 1905:

Disease.	Cases.	Deaths.
Measles	4	0
Diphtheria	4	0
Scarlet Fever	33	2
Typhoid Fever	7	2
Phthisis Pulmonalis	12	18
Pertussis	11	0
Varicella	3	0
Smallpox	4	0
Cerebro-spinal Meningitis	3	2
Mumps	3	0

Ophthalmology.

D. T. VAIL, M.D.

On Some Unusual Effects of Iodide of Potassium.

Gifford, of Omaha, who always writes well and instructively, has had some interesting experiences with the K. I. (*Annals of Ophthalmology*, April, 1905). Aside from the usual systemic manifestations, such as coryza, digestive disturbances, discrete pustular eruptions, etc., noticed by everyone who has prescribed the iodide, he has observed some peculiar and interesting symptoms, which he attributes to the K. I., such as phlyctenular conjunctivitis and keratitis, pustules at the corneal margin, and abscess in an old corneal scar.

In looking up the literature he found other anomalous manifestations of iodism reported, such as purulent iritis, serpent ulcer of the cornea, abscess of the cornea, gastritis and death from peritonitis, edema of the larynx, suppurative parotiditis, lachrymal adenitis, otitis externa, acute mania, pain in the feet, purpura hemorrhagica affecting the legs, purpura affecting the face, followed by skin necrosis and death. The citations are given in each report and there seems to be no doubt that the iodide caused the trouble in each instance.

The Treatment of Infection After Cataract Extraction.

Hansell, of Philadelphia (*Annals of Ophthalmology*, April, 1905), states that notwithstanding the practice of all known methods by men who thoroughly believe in asepsis, a certain though small per cent. (1 to 4) of cases of infection follow the operation of extraction of cataract.

The affections of the body which have been blamed for this result are intestinal fermentation, cystitis, diabetes, anemia, loss of vitality or recuperative power, and nasal and lachrymal disease.

The sources of infection external to the body are: Unclean eyelashes, germs resident in the conjunctival sac, septic instruments and bandages, foreign bodies, unclean hands, and perhaps most often the germ-laden breath of the operator or bystanders.

He reviews the measures necessary to prevent and exclude infection, recounts the details best employed in preparing the eye for operation, mentions the early signs of infection, and suggests the methods of treatment recommended by the best workers.

His own experience is confined to a single case, which resulted satisfactorily. He resorted to frequent washings with 1 : 1000 bichloride, cauterized the wound with pure carbolic acid, and on the fifth day after the onset of the disease injected five minims of 1 : 3000 bichloride solution into the anterior chamber in a mass of cloudy lymph that was rapidly filling up the chamber.

"In two days the mass had disappeared, the inflammation commenced to subside, and in ten days more the patient left the hospital with useful vision in that eye."

Coffee Amblyopia.

Bulson, Jr., of Ft. Wayne, publishes an interesting article on "Coffee Amblyopia" (*American Journal of Ophthalmology*, February, 1905), which clearly proves that this form of amblyopia, has been greatly overlooked in spite of the fact that it is not uncommon.

A few cases (very few, indeed) have been reported and are referred to. The history in each of the two cases that Bulson reports shows amblyopia, contracted visual fields, some pallor of the optic disks and small central scotomata. There was a distinct history of the imbibation of large quantities of strong coffee in each case.

The treatment consisted in withdrawing coffee and administering pilocarpine and strychnine, with a happy result in each case—complete restoration of vision.

In order to demonstrate to himself the possibility of coffee producing amblyopia, Bulson began to take large quantities of coffee and then watch the effect. His visual acuity was actually diminished and the fields of vision contracted. Recovery to normal was prompt after withdrawing the coffee and substituting strychnine in physiological doses.

In the discussion which followed the reading of Dr. Bulson's paper (see *American Journal of Ophthalmology*, March, 1905), Dr. Dudley Reynolds recited a case of coffee amblyopia which he had observed which went on to nearly total blindness, the patient refusing to give up her coffee. The ophthalmoscope showed optic nerve atrophy.

The Breech-Pin in Ophthalmology.

Gifford, of Omaha (*Ophthalmic Record*, March, 1905), reports another case of breech-pin in the orbit.

The history, in brief, was that a year previous the patient, "while attempting to shoot a cat with an old-fashioned musket, the latter exploded and knocked him senseless." ("But the cat came back.") The patient's right eye was destroyed and the collapsed globe was removed a few days after the accident by the attending surgeon. Owing to oft-recurring attacks of pain, together with partial paralysis of his right upper extremity, the oculist was consulted. Inspection revealed a dark body lying in the orbit behind the closed eyelids. Inspection of the nose revealed a mass of metal firmly impacted in the outer and upper wall. The breech-pin came away by firm traction with strong forceps, but another skiagraph revealed the presence of something more. This proved to be the screw which had detached.

Dr. Gifford publishes also a review of other notable cases of breech-pin which had entered the orbit and which were afterward extracted.

Gonorrheal Ophthalmia with Involvement of the Anterior Ethmoid Cells.

Suker, of Akron (*Annals of Ophthalmology*, April, 1905), reports a case of gonorrhea of the eye and nose occurring simultaneously in a patient who did not have urethral gonorrhea. He found abundant gonococci in the secretions and there was a copious discharge present, especially from the nose.

He comments on the similarity between Neisser's germ and the diplo-pneumococcus, and remarks on the importance of making a careful differential diagnosis between those two varieties of infection, each of which causes profuse purulent discharge.

Suker's patient had, aside from the copious discharge from the nose on the affected side, a violent ophthalmia with exophthalmos, chemosis, ulcer of the cornea, etc. The diagnosis was made by microscopic examination of the pus, using the differential bacteriological stain for the pneumococcus and the gonococcus.

In searching for a mode of infection, it was found that the patient had used a towel in common with a fellow-workman who at this time was suffering from gonorrhea.

Nasal gonorrhea has been noticed by other writers, but it is comparatively rare. Suker's case is interesting, showing, in the first place, the possibilities of this kind of infection; and, in the second, that the innocent may suffer where the guilty escape.

An Experience with Staining the Skin with Argyrol.

Post, of St. Louis (*American Journal of Ophthalmology*, March, 1905), reports a case of argyrosis due to argyrol in the tissues of the eyelid. The patient had a chalazion which was curetted in the usual way, and a 25 per cent. solution of argyrol injected into the cavity. "The following day the patient returned with the upper lid very black and shining, but not like an ordinary 'black eye,' more like a highly polished stove lid." In a week the stain was nearly gone. The treatment consisted in injecting a solution of K.I. (grs. i–℥i) into the reopened cavity and the internal administration of iodide of sodium, grs. v. t.i.d.

Facts Versus Fancies Concerning Heterophoria.

No oculist in America is better qualified to write on heterophoria than Dr. Hotz, of Chicago. He has never been carried away by beautiful theories, nor has he joined the ranks of those who hold that any attempt to relieve muscular imbalance by operative interference will make a bad matter worse. He occupies that sane attitude which is at neither extreme of the question, and writes with his characteristic force and clearness concerning heterophoria and the facts about it (*Annals of Ophthalmology*, April, 1905).

He reports four cases taken at random from many he has had showing the very satisfactory result following tenotomies and advancements in cases of pernicious asthenopia due to heterophoria.

He never operates until he has carefully and repeatedly proven the permanent existence of the condition and after having ascertained the degree of latent heterophoria. He also gives plenty of time to allow what benefit will result from the wearing of correcting lenses, and then advances the weak instead of tenotomizing the overpowering muscle.

Some Unique Cases of Amblyopia.

Moore, of Huntington, reports some interesting cases of transient amblyopia without fundus changes occurring in children between the ages of ten and eighteen, presenting no special features of nervous debility and without neurotic family histories (*American Journal of Ophthalmology*, February, 1905). The cases are reported at length and there can be no doubt that the amblyopia was genuine and not feigned.

Moore says with force and point: "Hysterical amblyopia has been the term which has been used to designate every visual defect that cannot be explained by pathological findings, but it may gradually dawn upon us that there is something wrong and we do not know what it is." The remedy which seemed to have the most positive action in bringing about a normal state of vision was the galvanic current of electricity.

Elephantiasis of the Upper Lid.

Harlan and Johnston, of Baltimore, report a case of this disease (*Ophthalmology*, April, 1905). Only twenty well-authenticated cases have been recorded. The case reported presented a solid edema of the left upper lid, which caused it to hang down overlapping the lower lid. A specimen of the tissue was subjected to microscopical examination and presented many irregular-shaped cavities, which were regarded to be lymph cavities. No muscular tissue was found in the substance of the specimen, and there were only a few blood-vessels seen. The disease began without known cause at the age of four.

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SALICIN, five grains every three hours, is a most valuable remedy in acute rheumatism and in all muscular pains.—*Med. Summary*.

The Lancet-Clinic

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CEREBRO-SPINAL MENINGITIS.*

BY G. A. FACKLER, M.D.,
CINCINNATI.

Physicians have become cognizant of the prevalence of cerebro-spinal meningitis in epidemic form in Cincinnati during the past two months. Definite reports from the records of contagious diseases and deaths issued by the Health Office and the indefinite, though striking, reports published in the daily press prove the existence of a comparatively large number of cases in this city. It may be assumed that many practitioners have taken from their shelves some text-book or a volume of some encyclopedia or system of medicine containing a comprehensive treatise of the disease to review the subject and refresh their memories. The interest acutely engendered by this epidemic has, furthermore, induced them to read carefully the well-prepared articles on the text-book order published in the current medical journals. This assumption being safe, the presentation of a like article would be superfluous at this meeting of those who have advanced beyond the primary class of students. It would appear a profitable plan, however, to seize the opportunity offered by the large number of cases at our command for the purpose of studying them in several of their more important phases, and, by comparison or contrast with the text-book pictures to determine how they conform to or diverge from the accepted descriptions.

As suggested by the death records of the Health Office, cerebro-spinal meningitis scores a fair, not widely varying, number of fatalities each year. Thus, deaths from the disease in 1900 were 52; in 1901, 33; in 1902, 23; and in 1904, 32. That these data are insecure is readily shown by the number of deaths attributed to meningitis, exclusive of tubercular meningitis, *i.e.*, in 1900, 142; in 1901, 177; in 1902, 187; in 1903, 158; and in 1904, 166. Surely, a large quota of these cases were those of secondary meningitis, but surely, also, did cerebro-spinal meningitis unrecognized, or designated by the simpler term, furnish a certain number of victims. In 1905, during the month of

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* Read before the Academy of Medicine of Cincinnati, May 8, 1905.

January, 2 deaths from cerebro-spinal meningitis are recorded, none in February, and 1 in March. To meningitis there are assigned 8 in January, 9 in February, and 15 in March. These citations are subject to the same comments as the annual statistics. A personal perusal of the death records of the month of April secured 24 deaths due to cerebro-spinal meningitis. During this month 26 cases were reported to the Health Office by attending physicians. Thus, although the statistics of our Health Office in respect to this disease are, for excusable reasons, not reliable, the increase in deaths and reported cases over the average numbers of the past few years verifies the original claim of this paper as to the prevalence of an epidemic.

An inquiry into the location of the cases reveals the existence of the disease in different parts of the city, the major number thereof confined to the northwestern quarter, the aggregation of several series of cases in limited areas and marked instances of house epidemics.

This list may prove interesting, in that it shows the distribution of the cases reported and discovered since February 23, 1905:

The northwest section of the city furnished the following addresses: 2027 Western Avenue, 1206 Harriet Street, 2023 Western Avenue, 1808 Linn Street, 1925 Western Avenue (2 cases), 2256 Spring Grove Avenue, 1007 Marshall Avenue, 1693 State Avenue, 2153 Colerain Avenue, 2312 Gest Street, 1100 Hopkins Street, 272 Mohawk Street, 2823 McMicken Avenue, Liberty and Jones.

A second group of cases are located at the following addresses: Allison and Vine Streets, 527 East Twelfth Street, 550 Ringgold Street, 2007 Florence Avenue, 1084 Gilbert Avenue, 2024 Reading Road, Beechwood Avenue, 2606 Stanton Avenue, 1840 Kinney Avenue.

A third nest of cases was found at 1008 Vine Street, the residence of a family, three children of which had cerebro-spinal meningitis.

A fourth line of cases was traced along Carlisle Avenue, at numbers 613, 713 and 715, and reaching to 623 West Sixth Street.

One case in Shantytown and one at 840 Court, complete the lists.

While a superficial glance at the mixed list of cases might have conveyed the impression of an irregular distribution of cases throughout the city, a more critical survey discovers twenty out of thirty-seven, or more than one-half of all cases, in the northwestern section, a streak of eight cases cavorting in scattered spots from Allison and Vine in a northeast direction to Walnut Hills and Avondale.

Of valuable import to us in our conception of the contagiousness of the disease is the proximity of the patients under discussion. The three children in one family at 1008 Vine Street, two children in one family at 1925 Western Avenue, and two children of different families at 2153 Colerain Avenue, furnish distinct examples of house epidemics. It would probably not be difficult to establish some contact between the cases at 2023 and 2027 Western Avenue, removed but one square from the two cases at 1925, or between the cases at 713 and 715 Carlisle Avenue, removed but one square from that at 613 Carlisle Avenue, the latter again but one block from that at 623 West Sixth Street.

The first chapter may therefore be closed with the statement that the events as portrayed substantiate the claim of most observers that cerebro-spinal meningitis is a contagious disease. It surely requires no further or more extended elucidation to determine that the plan of distribution of the cases in this city is in accord with that of the strictly contagious diseases. It is true that the adults and nurses attending private cases have not been attacked with the disease, and that new cases have not developed in the hospital, where no efforts at strict isolation were made. We may conclude that the degree of contagiousness is less marked than with most of the other infectious diseases. We may assume with Leyden that the pathological agents are shut up in the cranial cavity and spinal canal, and can, consequently, not be spread abroad and become causes of transmission of the disease. If the pathogenic organisms existed only in the meningeal exudate, meningitis would never be transmitted, but in certain cases they have been found in the lesions of broncho-pneumonia, in the pus in arthritis, in abscess of the tonsil, in secretions from the nasal cavities and pus of an otitis. The specific germs have been discovered in rare instances in a myocardial abscess associated with meningitis, in the pleura, kidney, spleen, pericardium and urine. Their presence has been demonstrated in a case of meningitis with metastatic joint lesions by cultivation from the blood. Netter has discovered it in the blood of ten patients. Thereby they may reach the outer world and become dangerous agents of infection. It is not sufficient that these products of secretion contain the pathogenic agents of cerebro-spinal meningitis, but the germs must preserve their virulence, and we know from the labors of bacteriologists that this virulence is very slight; that the activity of the specific organism outside of the body is readily destroyed by certain influences, as heat and light; that, in brief, it is incapable of saprophytic existence. Does it then require very profound reasoning power to find an explanation for the occurrence of sporadic cases at all times and the occasional explosion of the disease in epidemic form?

In the detailed study of the diagnosis and symptoms of the disease I would narrow the field down to the cases under observation at the City Hospital. The safe line of examination demands the careful consideration of the etiological rôle played by primary conditions in the production of consecutive meningitis. Among these are trauma, as penetrating wounds of the skull or eyeball; pyogenic diseases of adjacent structures and cavities, as of mastoid, middle-ear cavities, of the nose, antrum of Highmoor, frontal, ethmoidal and sphenoidal sinuses; erysipelas of the deeper structures of the face and neck; furuncles or carbuncles in the same regions. Meningitis occurs in connection with such general diseases as pneumonia, typhoid fever, influenza, dysentery, and sequentially to scarlatina, measles, variola. On the other hand, a true case of epidemic cerebro-spinal meningitis is not introduced or preceded by any other disease. It is as independent of other ailments as is a case of smallpox.

Every medical student, probably, leaves college with mental pictures of a number of diseases, none more vividly impressed than that of cerebro-spinal meningitis, with its figure of the patient in position of extreme opisthotonos. Even the practitioner of many years, having passed by a mild case unrecognized or met with perhaps only two or three severe cases, still retains in mind the classic picture of college days, refreshed in times as these by references to his text-books or journal articles. The schematic impression is about as this: A person in usually good health is suddenly seized with severe cephalalgia, vertigo, soon followed by nausea and vomiting. The pain extends along spine and extremities. Patient becomes unconscious, has muscular twitching. His head is drawn back to a greater or less degree, even to that of extreme opisthotonos. Temperature is high and pulse slow. Pupils are irregular. An eruption appears on the third day with an apparent slight amelioration of symptoms. Soon cerebro-spinal symptoms return with greater severity, and local and general pain, retraction of head, opisthotonos, convulsions are marked. Exhaustion and emaciation are rapid and of high degree, and from these patient expires after various periods of duration of disease.

The tabulated array of the salient features of eight hospital cases permits us to indulge in comparisons with the above story (see table).

All attempts to establish some condition which might be regarded as standing in etiological relationship with the attacks proved futile in all cases. A virginal previous history in each instance and the story of sudden onset in all but one, in which premonitory complaints were recorded for four days before admission to hospital, rendered the diagnosis easy. Gastric disturbances, which are given prominence in almost all articles on this subject, were absent in five cases, vomiting present in three. Diarrhea in two cases, and constipation in five shows preponderance of the latter. It is especially worthy of our notice that of all patients only two exhibited petechial eruptions, and in only one of these the punctate petechiæ were well marked and widely disseminated. Herpes noted in three patients. Surely, if these were the representatives of typical cases the disease would never have earned its appellation of spotted fever. Cephalalgia in every case, rachialgia in every case, especially in the cervical region, not increased by pressure, but by movement. This seemed to compel immobility of the head and neck in a position of retraction, which is probably often mistaken for tetanic rigidity. The clinical history of our cases does not include a single mention of opisthotones, and this coincides with my personal experience with the disease, and,

Patient	Carl P.	Jacob G.	Anna S.	Louis K.	Eva K.	Bluma K.	John S.	Charles L.
Residence	715 Carlisle Ave	613 Carlisle Ave	713 Carlisle Ave	1008 Vine st	1008 Vine St	1008 Vine St	1206 Harriet St	1823 McMicken Av
Age	2 years	5 years	14 years	4 years	10 years	17 years	10 years	17 years.
Previous History	Good	Good	Good	Good	Good	Good	Good	Good.
Onset	Sudden	Sudden	Sudden	Sudden	Sudden	Sudden	Gradual	Sudden.
Emesis	Absent	Present	Present	Absent	Absent	Absent	Present	Present.
Stools	Constipation	Constipation	Constipation	Constipation	Constipation	Normal	Diarrhea	Diarrhea.
Eruptions	Herpes	Absent	Papular petechiæ	Absent	Herpes	Herpes	Absent	Punctate petechiæ.
Cephalalgia and Rigidity of Nucha	Present	Present	Present	Present	Present	Present	Present	Present.
Pronounced Opisthotonos	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent.
Convulsions	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent.
Kernig's Sign	Present	Present	Present	Present	Present	Present	Present	Present.
Leucocyte Count	23,000	I. 25,400; II. 39 000.	12,000	13,700	18,000	Not made	15,000	Not made.
Lumbar Puncture and its Results.	Not Made	Diplococcus intracellularis found.	Diplococcus intracellularis found.	Not made	I. Staphylococcus; II. Diplococcus intracellularis.	Not made	Not made	Diplococcus intracellularis found.
Eye Symptoms	Pupils dilated and unequal. Fundus not examined.	Pupils contracted and equal. Later dilated and unequal. Double retrobulbar neuritis.	Pupils normal at onset. Lated dilated and unequal. Double retrobulbar neuritis.	Pupils dilated and unequal. Fundus not examined.	Pupils unequal and dilated. Double retrobulbar neuritis.	Pupils normal. Fundus not examined.	Pupils dilated and equal. Fundus not examined.	Pupils dilated and equal. Fundus not examined.
Urinalysis		Trace of albumin						
Joint Symptoms	Absent	Absent	Polyarthritis in wrist and shoulders.	Absent	Absent	Absent	Absent	Absent.
Duration	28 days	8 days				19 days	15 days	30 hours.
Result	Dead	Dead	Living, improved	Living, slowly improving.	In statu quo	Recovery	Dead	Dead.
Post-Mortem	Excess of purulent fluid over cortex and base of brain.	Purulent exudate over cortex. Base slightly involved. Purulent pericarditis, which furnishes pure cultures of diplococci intra.					Fibro-purulent exudate over cortex and base. Scattered areas of broncho-pneumonia. Streptococci found.	Purulent exudate over cortex. Base partly involved.

I am sure, with that of the majority, disposing of this as one of the classic symptoms, unreliable because of its infrequent appearance. Again, the absence of convulsions in all cases is in such contrast to the accepted idea of their occurrence in meningitis, a startling contradiction to the text-book stories, that it may well be remembered.

Kernig's sign, on the other hand, elicited in every subject, looms up as a most valuable, if not pathognomonic manifestation. Blood counts, when made, showed increase in white cells, to from 12,000 to 39,000, and in conformity with the general experience of clinicians. Lumbar puncture was performed in four cases, resulting in the discovery of the Weichselbaum diplococci in three and of staphylococci in one case on first and diplococcus on second puncture. Bacteriological examination of exudate secured post-mortem in one case disclosed the presence of streptococci.

The description of the state of the pupils in the books as contracted, dilated, irregular, sluggish, is rather unsatisfactory. Our record apparently decides that the pupils are, as a rule, unequal and dilated. The absence of strabismus is noteworthy. In the three cases in which the fundus of the eye was examined double retrobulbar neuritis was determined, a symptom chiefly of importance because it indicates extension of the inflammatory process beyond the meninges.

Albuminuria in one case and joint symptoms in another relegate these to the background.

A careful review of these clinical histories must surely impress all with the necessity of modifying the general conception of the symptomatology of the disease. The almost uniform record of good previous history, sudden onset, Kernig's sign, increased leucocytosis, retrobulbar neuritis, dilated, usually unequal pupils, cephalalgia and rigid nuchæ, fixes these as the signs to be sought for in the majority of cases. The lack of digestive disturbances, of convulsions and extreme opisthotonos, of articular symptoms and eruptions in many or all cases justifies us in characterizing these as inconstant, and, hence, less important manifestations of cerebro-spinal meningitis.

More successful than in symptomatology are we in assorting the hospital and other cases in the city in accordance with the usual division of the disease into its varieties, *i.e.*, the malignant, fulminating or foudroyant, the abortive, the intermittent, and the ordinary types of the disease.

The last case on the inserted table, with its duration of thirty hours, one case in the hands of Dr. E. O. Straehly terminating fatally in twelve hours after the inception of the disease, two cases treated by Dr. Edwin Landy with marked symptoms and of forty-two and forty hours' duration respectively, one case of seventeen hours' duration attended by Dr. A. D. Birchard, are examples of the first or fulminating type. The abortive variety finds apt illustration in the history of one of the Krasnitzki children, in which the symptoms, though characteristic, were mild, even the temperature subsiding after a seven days' remittent course, the patient being dismissed at the end of nineteen days fully recovered.

The brother of this girl, Louis Krasnitzki, was admitted to the hospital with well-established symptoms of the disease. Avoiding detail, I would state that after a period of two weeks, during which he made an impressive picture of the disease in its acute state, he began to improve, and at the demand of his mother was discharged from the hospital after a residence of thirty-four days. Subsequent inquiry at his home found him greatly emaciated and subject to transient fits of irritability, but otherwise apparently normal. This represents the ordinary form of the disease, terminating after a variable period in a slow convalescence or death, as in the case of Carl Polak.

The intermittent form of the disease is represented by the third of the Krasnitzki children, Eva K., admitted to the hospital on February 23 with a history of complaining six days prior to this date of severe headache, pain in back and abdomen, rapidly growing worse and delirious. On admission no difficulty was experienced in enrolling her in the class of meningitis patients. A most interesting feature of this case is the temperature course. The temperature varying in a remittent manner from 100° to 103° for seven days, dropped according to programme to the normal line, along which it weaved for six days, again to rise to 104°, and much like the chart of a typhoid fever case, showing daily fluctuations for one week of 101° at

6 A.M. to 103° at 6 P.M., during the following, like a third week's typhoid, more decided remissions to 98.4° at 6 A.M. from 102° at 6 P.M. During the next or sixth week of the attack the temperature fluctuated slightly above and below 99°, began to exhibit some erratic tendencies on the forty-second day, to become plainly intermittent on the forty-sixth. Since that day the chart is a *facsimile* of that of an intermittent malaria, mounting to 103° or 103.6° at about 6 P.M., to descend during the night, reaching 97° or 98° in the morning. These elevations are in the nature of acute exacerbations, the three-hourly record often showing a difference of four or five degrees. While tractable at other times, during the rapid ascent of the fever our patient becomes very irritable, crying, asking piteously for her parents. Despite the febrile condition and irritable attacks, she is on full diet, gaining weight and strength. Clinicians have been misled by this intermittence to attribute the meningitis to the action of the malarial poison, and have consequently employed quinine in the treatment of such cases without avail. We also quininized our patient, but the absolute inefficacy of the drug was proof sufficient that no relation existed between malaria and the meningitis.

One case in the series, that of John Scanlon, produced a discord in the uniform symptom-complex which we were endeavoring to establish. The boy, ten years of age, was admitted to the hospital on March 22, when these points were recorded: Family history good, parents living. Previous history: had measles, pertussis, sore throats, but, as a rule, has been in good health. Has felt sick for four days with headache, loss of appetite, marked vomiting and diarrhea and general lassitude. On admission his temperature was 100°, pulse 78, respiration 34. Patient was a well developed youngster. Superficial cervical glands a trifle enlarged, throat slightly inflamed, sordes on teeth. Heart's action somewhat irregular, but sounds normal. Lungs negative. Liver normal, spleen enlarged, inguinal glands enlarged. Tongue coated, anorexia, emesis, diarrhea. Urine normal. A provisional diagnosis of typhoid fever was made and appropriate treatment instituted. March 25, patient was rather stupid, complained of photophobia, had four or five stools a day, but formed and not typhoid in appearance. March 27 stupor increased, head markedly retracted and ophthalmoscopic examination found haziness of optic disk, margin indistinct, vessels distended. Blood count furnished a leucocyte count of 15,000. The addition of the Kernig sign, dilatation of pupils and general irritability to the clinical history hastened the conclusion that this was a case of meningitis. The temperature from the inception of the case ran an almost typical typhoid course. Patient died in coma on April 3.

Our inquisitiveness to discover the cause for the occurrence of this aberrant case was gratified by the post-mortem findings. The pathologist reports that in the brain the blood-vessels were injected, the pia over entire surface edematous, marked excess of fluid, which is slightly turbid. Thin fibrino-purulent exudate over base. Culture made from lateral ventricle shows streptococci. Numerous broncho-pneumonic patches scattered through both lungs. Here, then, we had been dealing not with a meningitis caused by the diplococcus intracellularis, but by the streptococcus, which, on more painstaking examination of patients, may perhaps be found to produce an attack with more gradual development of symptoms, a typhoid state, and other signs enabling us to differentiate between this and other forms of meningitis.

Our short list of cases has thus served the purpose of supplying specimens of the various clinical divisions of the malady. Because our experience emphasizes that of other observers in respect to the wide variations of the intensity of the diseased process, from the almost brutal demolition of the patient in hours by the fulminating form to the mild attack of painful, distressing symptoms, which disappear in a week or ten days, leaving the patient in perfect health, the possibility of even milder cases is suggested. Without doubt, patients who consult us for the relief of headache, perhaps of periodic character, accompanied mayhap by vertigo, slight mental obfuscation, tinnitus aurium, a feeling of stiffness and soreness in the nucha and back, are with propriety entered in the category of those suffering from some toxemia, possibly of intestinal origin. During the prevalence of such epidemic as this under consideration, may we not with equal propriety regard them as cases of cerebro-spinal meningitis, greatly attenuated and of short duration?

A tedious discussion of the pathology and bacteriology of the disease is here evaded by terse references to the factors which may find practical application in the study of our cases. We may accept the axiom proposed by Councilman that, strictly speaking, all cases of acute meningitis deserve the term meningo-encephalitis, and that all cases of acute meningitis are cerebro-spinal, the meninges of the cord being affected as well as those of the brain. These claims that reliable observer bases upon a large amount of original work and research.

The autopsies in our cases disclosing excessive sero-purulent fluid or exudate over the cortex and base of brain corroborate the reports of all pathologists. The macroscopic appearance of the exudate of the streptococcus case did not exhibit any points by which it might be distinguished from that of the other cases. It is true, then, that all forms of acute meningitis agree more or less in their anatomic features. The same sero-fibrinous, sero-purulent or sanio-purulent exudate is the pathologic product of the various offending organisms that have been found therein, as the pyogenic organisms, the streptococcus pyogenes aureus, the diplococcus pyogenes, the typhoid bacillus, the specific organisms of ulcerative endocarditis or of erysipelas, the pneumococcus and the diplococcus intracellularis meningitidis.

Tubercular, alcoholic and syphilitic lepto-meningitis are, of course, not to be considered in this class of lepto-meningitis.

It is scarcely necessary to quote the names of the many observers who have resorted to lumbar puncture in their care of cases of meningitis, for, consistent in their individual reports, they uniformly endorse the procedure as a safe and valuable diagnostic aid. In four of our eight cases lumbar puncture was performed, and in each case the diplococcus intracellularis was found in the fluid thus secured. In the patient Eva K., the first attempt was productive of the discovery of the staphylococcus, which may, however, in the light of the second positive finding of the specific germ, be ignored. Although the measure was omitted in the cases of this last patient's sister and brother, the circumstances surrounding these patients heretofore detailed warrant our belief that they also were victims of the same infectious agent. The infallibility, almost, of a certain group of symptoms as indications of some form of cerebro-spinal meningitis has been dwelt upon. To establish the existence of this affection, therefore, lumbar puncture cannot be urged as a diagnostic measure for general application. The only purpose subserved by lumbar puncture is that of securing means to differentiate between the various classes of meningitis from a bacteriological standpoint. The results thus secured are more extended in their practical effects than supposed by those who look upon this act as one indulged in to satisfy curiosity. They will regulate prophylaxis and influence prognosis. The prognosis in a case of meningitis due to the streptococcus or pneumococcus is more unfavorable than in a case caused by the diplococcus intracellularis, since it has been found that recovery takes place much more frequently in the last-named than in the other types of infection. It is a startling but demonstrable fact that a larger percentage of epidemic cases of cerebro-spinal meningitis recover than of sporadic cases, depending evidently on the type of the disease.

Little encouragement can be offered in the line of treatment. The loud claims as to the efficacy of anti-diphtheritic serum and repeated lumbar punctures put forth by some clinicians have not been substantiated by their use in the hands of others. The local application of cold to head and spine, the administration of narcotics, preferably opium or one of its derivatives, judicious administration of antipyretics, preferably phenacetin, are measures that must be relied upon to relieve complaints and symptoms as they arise. The value of the method of treatment introduced by Aufrecht, in 1894, and adopted by many other clinicians, seems to be definitely proven. Warm baths at a temperature of 104° of ten minutes' duration are given every three to six hours, according to severity of symptoms. The immediate effect of these baths upon the pain and the rigidity is very marked—so great that the patients often call for a repetition. The muscular rigidity becomes less marked, the pulse more regular and temperature lower. In conjunction with this plan, Netter and others advise the routine administration of the salicylates internally. No effort, however tedious, must be neglected to maintain the patient's weight and strength, by healthy surroundings, absolute rest in roomy quarters to which an abundance of air and sunlight may find ingress, and by a diet rich in readily digested albumens and carbohydrates. In our efforts we are often materially aided by the readiness with which the patient is aroused from a semi-stupor and can be induced to partake of nourishment.

Most important to us as monitors of the health of the community is the possibility of the prevention of epidemic distribution of the disease. That we are dealing with an acute infectious disease, due to the presence in the cerebro-spinal fluid of the diplococcus intracellularis of Weichselbaum, or, as Jaeger proposes to call it, tetracoccus intracellularis, can no longer be denied. That cases of meningitis due to other bacterial invasion occur sporadically, constituting the vast majority of sporadic cases, is equally true, and explains the discovery of a pneumococcic or a streptococcic meningitis, *vide* our experience, in a list of apparently epidemic cases with like clinical manifestations. In our personal advisory positions we should first of all, then, determine by lumbar puncture and examination of its product the bacterial character of the case in hand. If the specific organism is found, the patient should be surrounded with as strict precautions against transmission of the disease to others as we, with our present meager knowledge of the extra-cranio-spinal habitat of the diplococcus, can devise. Since the agent has been detected in several of the normal and pathological secretions and excretions, special efforts for the destruction of the infectiousness of nasal, pharyngeal or laryngeal mucus, or purulent discharges from the same source or annexed cavities or from the ears should be instituted.

We must surely be impressed with the fact that the occurrence of an epidemic of cerebro-spinal meningitis is governed by the same laws as are all other epidemics, and that a better knowledge of its methods of communicability will eventually control its spread. In cases of streptococcus or pneumococcus meningitis little fear need be entertained of transmission of the special expression of the infection, *i.e.*, the meningitis, but the usual precaution of rendering innocuous every pneumococcus or streptococcus should be taken. In the case of epidemic cerebro-spinal meningitis, however, not only personal effort to curb the progress of the disease should be made, but we should become active in our coöperation with the municipal health department in the legal isolation of the cases. Thus we have fixed definitely the utility of lumbar puncture, for thereby we are in a commanding position to distinguish the specific contagious disease, specific because the entrance of its diplococcus into another individual will positively produce, not a pneumonia, not a streptococcus diphtheria, but another case of cerebro-spinal meningitis. The municipal health office, which is devoting its energies so largely to the limitation of other infectious diseases, in receiving our support will, I believe, be more successful in restricting the ravages of this disease than it is with many other infections.

(For discussion see p. 634.)

BI-INGUINAL CELIOTOMY.*

BY SIGMAR STARK, M.D.,
CINCINNATI.

At a meeting of this society with Dr. Hall about two years ago, during an informal talk before the session, I mentioned that I was doing an ideal operation for retro-displacements of the uterus, that I hoped some day to lay before this association.

It mortifies me to confess that, ignorant of the originator's publication, I had been doing the Goldspohn operation, though differing somewhat in technique from that of our confrère. I am still doing it in accordance with my original plan, and consider the slight difference in the method an improvement on that advocated by Goldspohn, as will be pointed out at the conclusion of this paper. The belief that this operation, which to my notion is superior to all others, has not gained a foothold in this community, is my excuse for calling your attention to it. As you are aware, this operation is only intended for such cases in which suppurative changes in the appendages are not present and adhesions only moderate in degree exist. Cystic ovaries and catarrhal salpingitis with occlusion and distortion of the tubes do not contraindicate the operation, but can readily be dealt with in this form of procedure. Only a couple of weeks ago I operated a patient in my service at the Cincinnati Hospital with considerable adhesions and in whom I did a salpingo-oöphorectomy on the right side, because of the existence of cystic ovary and closed, distorted tube, the remains of a former salpingo-oöphoritis.

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* Read before the Obstetrical Society of Cincinnati, February 9, 1905.

For years I had been performing the Alexander operation, but in the course of time met with a fairly large percentage of recurrences, and I began to look about for a more promising undertaking. From my experience gained with the Goldspohn method I realize that I undoubtedly many times only anchored the cremaster muscle, which had been drawn together in the form of a cord. I have investigated this matter so thoroughly in my operations in the inguinal canal, and have satisfied myself how easily this error could occur, that I feel confident that many operators have done and will do the same thing if they confine their work to the external abdominal ring or its immediate neighborhood. In many instances the round ligament assumes its fan-like separation high up in the inguinal canal and its fibres become closely associated with the fibres of the cremaster, even assuming the same reddish appearance, whereas, higher up, the ligament in its compact form has a greyish hue.

OPERATION.

The incision is made in the line of the inguinal canal from the spine of the pubes to a point a short distance above the internal abdominal ring, altogether about two and a half to three inches in length. The aponeurosis of the external oblique being exposed, the intercolumnar fibres are split and the incision through this fascia is continued upwards and outwards toward the internal ring. The lower portion of the aponeurosis is rapidly separated from its adjacent tissues with the index finger, until Poupart's ligament is reached. This flap is then held downward in the grasp of a wide-mouthed hemostatic or by means of a blunt retractor and all the tissues imbedded in the canal rapidly raised by dissection with the finger. The anatomical landmarks to the ligament are the ileo-inguinal nerve anteriorly and the genito-crural behind. The ligament, furthermore, is the most bulky of the lowermost structures, and has a greyish appearance, and upon making traction upon it is found to be somewhat thinner as it enters the internal abdominal ring. The most crucial test, however, is the appearance of the subperitoneal fat through the canal of Nuck around the ligament, particularly below it when traction is made. The complete isolation of the ligament from its surrounding structures is then effected and a strip of gauze is passed underneath, through the medium of which all further manipulation upon it is carried out. With the continuance of traction, a pouch of peritoneum is made to present above the ligament, and this is snipped transversely with the scissors. The peritoneal cavity now being opened, the aperture is caught on either side at its upper extremity by two artery forceps, and while traction on the ligament is kept up, the peritoneum is severed closely from its attachment to the ligament on either side with the scissors as high up as may be deemed desirable. One or two fingers are introduced into the peritoneal cavity in order to determine the presence of pelvic adhesions and to remedy the same, to investigate the condition of the appendages of that side, and if need be to operate upon them and to note the degree of uterine support in the round ligament while traction is being made thereon, and to liberate it still further from the broad ligament if the support is insufficient. The wound is then packed with gauze wrung out in hot salt water and the same procedure is gone through with on the opposite side. We then return to the first side operated upon and proceed to close up the peritoneal cavity. This is effected by catching the upper portion of the opening by means of an artery forcep in such manner that the opposing surfaces of the peritoneum are approximated, which are united by means of a fine continuous cat-gut suture, the last stitch including the inner border of the ligament, which has been continuously drawn upon by means of the gauze strip. The round ligament is then sutured to Poupart's. This is accomplished by means of interrupted fine silk sutures passed through the outer border of the ligamentum teres, the first stitch being applied just below the lower border of the internal abdominal ring. Three or four sutures are employed and the redundant proximal portion of the ligament is held together in the form of a loop, the base of the loop tied off with cat-gut and the portion above the ligature cut off. Closure of the internal ring is accomplished by suturing the internal oblique, transversalis muscle and fascia to Poupart's ligament, for which I also use silk. Ordinarily it is unnecessary to close off any more of the canal, but should it seem weak or should a hernia pre-exist, then the remainder of the conjoined tendon can be sutured to Poupart's ligament above the attachment of the round ligament. The divided aponeurosis of the external oblique is brought together by interrupted cat-gut sutures and the skin wound closed in the ordinary manner by subcuticular suture or interrupted silkworm-gut. The other side is treated in the same manner. If a suitable pessary has not been introduced before the operation because of adhesions interfering with replacement, this is now done and permitted to be worn two or three months.

The operation as performed by me differs in three points from the Goldspohn method: In the closure of the peritoneal cavity, the suture of the round ligament to Poupart's ligament, and the disposal of the internal abdominal ring and inguinal canal. In closing off the peritoneal opening independently of the internal ring, there is less likelihood of interposition of peritoneum in the wound, which would interfere with the proper obliteration of the ring. The nutrient artery of the ligament passing along the upper surface of the ligament is not liable to fatal constriction when the suture is only passed through the outer border in place of through the whole ligament. Finally, a neater and more perfect closure of the internal ring and inguinal canal can be effected if the round ligament is not included in the suture.

DISCUSSION.

Dr. J. M. Withrow: Three years ago last May I read a paper before the Academy and reported some cases illustrative of this operation. I presented this paper after my return from abroad. During my sojourn abroad I spent two months in Berlin, where I visited the dead house daily for the purpose of studying the inguinal canal and the feasibility of this operation. While there I also saw Goldspohn do his operation, or rather show somebody else how to do it.

A word or two in respect to the operation. I have done it several times, but I have not done it now for a long time—not because it has no field, and not because it is not the best operation, for I believe it is the best modification we have of Alexander's method. I think it is the best method we have of shortening the round ligament through the inguinal canal.

In reference to the indications for the Alexander operation, it seems to me the more I meet with the condition of retroversion the more I am convinced that the ordinary forms of retroversion need no treatment, and the more I am convinced that in cases in which the retroversion is of sufficient moment to cause a need for treatment there is present such diseases of the ovaries, adhesions of the peritoneum, or inflammation of the tubes, etc., that there is demanded such a view of the pelvis as can only be had from a median incision, and then if it is felt wise and best to treat the retroversion as a deformity, or as a condition existing which is to be relieved, either to loop the round ligaments upon themselves or draw them through the abdominal wall, or to do what I believe is still better and which can be done, viz., shorten the sacro-uterine ligaments, because in many cases they can be reached, dragged forward and a loop taken in these ligaments which is the most rational thing to do, for they are the natural supports of the uterus posteriorly. With this latter view as to the causation of posterior displacement I have drifted away from operative procedures for its cure, and of these I have made quite a study. In cases where there existed a disease of the ovary in connection with the retroversion I might adopt operative measures to cure the conditions present in the ovary, but I have acquired less and less faith, or more disbelief, in attempting to cure the retroversion by any operative procedure on the uterus or round ligaments.

Dr. Byron Stanton: At the meeting of this society last June I read a paper on the fixation of the uterus, and I took the ground against any of the operations for fixation for the relief of that condition during the child-bearing period. That paper was based on two cases which came under my operation—one of ventral fixation and one of Alexander's operation. In the first case in three succeeding pregnancies there were two abortions and one pregnancy attended with intense suffering, and in the other case there was a single pregnancy with serious dystocia. The ground that I took was that during the child-bearing period the operation of fixation of the uterus was objectionable, and I believe that the operation described to-night to be as objectionable as the operation performed by the Alexander method.

Dr. Charles L. Bonifield: For years, although I have never run across a case where ventral suspension or fixation has caused any trouble, I have always limited operations for the relief of retrodisplacement to some form of operation on the round ligaments, in child-bearing women.

The question as to what operation shall be done is one which I think will depend on the ideas of the individual operator. Every operator has his own preferences. Personally I have never been able to see the advantage of making two celiotomies. I have done the Goldspohn operation a number of times, and always in cases in which I believed I should do simply the Alexander operation, and when I had any difficulty in finding the round ligaments I simply carried the incision deeper on through the inguinal canal, to be sure that everything was right. This, as I intimated, was always a second thought with me, as I would not start with that intention.

I agree with Dr. Withrow, that retroversion in itself does not need treatment, but we do not see cases of simple retroversion so frequently, because if they do not have symptoms patients do not come to us. Those cases which come to me have a prolapsus of the ovary with the uterus bound down by adhesions, and the ovary included in those adhesions. That sort of cases does need treatment, and I believe treatment can best be given through an incision in the median line so the operator can be sure as to just what he is to do. The field for the old Alexander operation I think is very limited; in fact, those cases to which it is applicable will do as well with the pessary and tonic treatment as they will with the Alexander operation. I have not had much experience with the shortening of the sacro-uterine ligaments. One reason for this is that I should not have the greatest faith in this method until the profession has had more experience with it. In my earlier operations in shortening the round ligaments within the abdominal cavity, I folded them upon themselves and stitched the folds together, usually with chromicized catgut. I had quite a few relapses from this procedure, some of them being submitted to a second operation. I found the ligaments in these cases simply stretched out again. When the round ligaments are shortened in this way, after the sutures have been absorbed, there is nothing but peritoneal adhesions to hold them, and these are not sufficiently strong to hold the uterus forward. The sacro-uterine ligaments are little more than folds of peritoneum, and I should expect them to behave in the same way after being shortened as do the round ligaments when covered with peritoneum. In view of this early experience that I had in the shortening of the round ligaments without opening the peritoneum I have always made it a point in recent years to strip the round ligament out of its peritoneal sheath, and then double it once or twice upon itself, and in this way I have been able to get more permanent results.

The point made by Dr. Stark of inserting a pessary after the Goldspohn operation, or any of the intra-abdominal methods of shortening the ligaments, that pessaries should be worn from one to three months, I think is a very good one.

Dr. C. D. Palmer: I have had no experience whatsoever in practicing the Goldspohn operation. I think I heard Dr. Goldspohn, of Chicago, describe this operation at the time that he introduced it to the profession. I have always depended upon other means for the relief of this condition. I endeavor to ascertain what the cause of the displacement is, treat that, and try to rectify the same before making any operation is considered. I have in two instances fixed the uterus to the abdominal wall, both operations having been done on charity patients, and while they seemed to be in better condition after the operation, I could not follow up their cases.

In shortening the round ligaments I have made operations something after the method of Mann's or Wylie's, stitching them together with chromicized catgut. As a rule I have objected to opening the abdominal cavity unless I could find a sufficient cause to justify it, independent of the displacement. This has been touched upon in a measure by some of the speakers. The displacement *per se* does not require an operation, but the associated conditions are the ones that may justify opening up the abdominal cavity. In such cases we generally find some disease of the Fallopian tube or ovaries or pelvic peritoneum, with the uterus more or less fixed by adhesions. These must be broken up in order to free the uterus.

Retrodisplacement is hardly a disease in and of itself; it is the result of disease. The disease causing it must be cleared up, the increased bulk and size must be reduced, and the supports of the uterus must also be strengthened. If we can overcome the displacement without opening the abdomen it is a great point gained. I think many operations are done for retrodisplacement which are entirely unnecessary. Practically, I think all displacements, especially retrodisplacements, may be divided into those in which the uterus is mobile or reducible, and those in which it is immobile or non-reducible. As a rule, the first class can be cured without any surgical procedure; the latter often needs some one, and this one becomes necessary, not for the displacement, but for the morbid conditions of the adnexa and the pelvic peritoneum.

Dr. Stark (closing): I will reply to the remarks of the last speaker first. I look upon this operation as practically an innocent one. Although in his first one hundred operations Goldspohn was unfortunate enough to lose one, yet Howard Kelly reported a case some few years ago in which the patient died from so simple an operation as a curettement. Of course, we can lose a patient after the most trivial operation. It is not easy to believe that a patient is going to die from an operation of this sort. I think if we consider this operation step by step we will most certainly come to the conclusion that it is an ideal procedure. In the Goldspohn operation we do not change the anatomical relation of the structures or conditions one iota, except at the internal abdominal ring, and the changes made there are for the express purpose of strengthening it. The same thing may be said in reference to the conditions in the inguinal canal — we approximate the borders of the inguinal canal to make them more secure in the future, but apart from that there are no changes made in the anatomical relations, which cannot be said of any of the extraperitoneal, and to some extent of the intraperitoneal, operations. If we still further analyze this operation it must appeal to us because it is done upon the stronger portion of the ligament and not upon the frail terminal portion. If we compare it with the internal abdominal operations it must appeal to us, because in these operations where a reduplication of the ligament is brought about in some manner or other, a constant tension is brought to bear upon the frail terminal portion of the ligament. Here we remove the weakest part and use only the more central portion for fixation to a practically immobile point, not as in the other operations where the fixation is to a yielding structure such as the pillars of the external abdominal ring or the fascia of the external oblique, as in the Kocher or Gilliam operations.

In regard to treating these patients by means of some mechanical procedure, I wish to say that it is only the small minority of patients who come to me with retrodisplacement of the uterus that I subject to operation. I treat the vast majority of them according to the Thure-Brandt method of massage, followed by the employment of the pessary. I never introduce a pessary into a patient of mine until she has been subjected to massage treatment for a sufficient length of time to restore the normal mobility of the uterus and secure good anteflexion. If the uterus has been retroverted for some time it is perfectly stiff and rigid, and its normal flexion must be restored by massage, which also means a restoration of the normal circulation in the organ. After treatment lasting for from six weeks to two months I give them a pessary. My introductory paper to this society was on the employment of the pessary in the cure of retroversions of the uterus, and in that paper I presented the view which I still hold, that we cure retroversions of the uterus through the employment of the pessary by inducing a condition of chronic inflammation in the sacro-uterine ligaments, and I firmly believe to this day that this is the method by which a cure is effected. I am sure we have all met with cases such as the following. I have now under treatment a girl who had dysmenorrhea and backache continuously because of a retroversion of the uterus which has existed so long as to be accompanied by prolapsus. The mouth of the cervix is but half or three-fourths of an inch from the introitus. These cases do need treatment, although there is no disease of the appendages. She has been massaged for three weeks, and I expect to keep it up for some time yet. I will then give her a pessary and let her go.

In regard to the influence of shortening the round ligaments upon pregnancy and labor, apparently, from the reports of cases, it exercises no influence in a deleterious way on the course of pregnancy or labor. The round ligaments are simply a continuation of the muscular fibres of the uterus, and undergo the same hypertrophy as the uterus does in pregnancy, and undergoes involution in the same manner. It is even claimed that after labor the round ligaments are firmer with each pregnancy, and for that reason their fixing power is greater. That is a statement which Goldspohn makes, and is one which is also borne out by other observers.

In regard to the remark that the ideal site for suturing the round ligaments is to the under surface of Poupart's ligaments, that is exactly what I do. I follow the Bassini method entirely. I suture the round ligaments to Poupart's ligaments. Those of you who are familiar with the Goldspohn operation will remember that Goldspohn does not separately close up the peritoneal cavity; he makes through and through sutures, including the peritoneal opening in the Bassini sutures. Thus he can readily include the peritoneum in such a manner as to have it interposed in the line of suture, and consequently get faulty union—in fact, hardly union at all—a union that will predispose to hernia. In my operation I close up the peritoneum first, then I close up the internal abdominal ring separately, as you do for the Bassini operation, and then I suture the round ligaments independently to Poupart's ligament, suturing them only on one side so as not to constrict the nutrient vessel.

I thank the gentlemen very much for their discussion.

TYPHOID FEVER IN CHILDREN.*

BY WILLIAM W. PENNELL, M.D.,
MT. VERNON, O.

It does not seem so long ago that we were taught that young children were not susceptible to typhoid fever; that they had a special protecting factor within their bodies that conferred an immunity denied adults; that such protection was withdrawn after the age of five years. One reason for this belief laid in the fact that children usually have a simple diet, and thus have less cause of irritation within the intestines.

Experience has proven that the immunity once believed to belong to children is a myth. We now know that there is no protecting factor, that children of all ages are never immune, but, on the other hand, are very susceptible to typhoid infection under favorable conditions.

Experience has shown that children have less resistance to the lodgment of the typhoid bacillus than adults, but from the fact that young children are less exposed, through feeding, to the germ finding access to their bodies, comparatively few infants contract the disease. Thus it is that only *opportunity* and not *immunity* makes the difference between children and adults.

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*Read before the Ohio Pediatric Society, at Columbus, May 9, 1905.

Really, the disease is more prevalent among children than is supposed, or is recognized. One prominent misleading feature is its usually anomalous course, lacking its classical aspect of adult age. We are looking for a typical picture, but we are presented an erratic sketch. In one the signs point to the abdomen; in another, the opposite direction may be indicated.

As stated, the child with typhoid fever may lack every classical symptom, yet a thorough investigation shows that it has been exposed to possible infection, and later on typical cases of fever develop in other members of its family. The child, having become infected with typhoid fever, which pursues an anomalous course, becomes a source or focus for the dissemination of the typhoid bacillus. The possibility of such a source of infection for a family of many members cannot be estimated, nor the value of its discovery. So that the application of the Widal test to every anomalous diarrheal condition of a child may prove to be of the highest value to the household if not to the community. In fact, the test should be applied to every case of tedious diarrhea, many of which may prove to be unrecognized typhoid fever—childhood supplying more of the ambulatory type of the disease than adult age. More particularly should the test be insisted upon when it is remembered that the nervous symptoms predominate in young children, masking the abdominal signs.

There may be those who believe that infancy and childhood possess some unknown but powerful resistance to the typhoid germ. To these let us recall that the transmission of the typhoid bacillus from the mother to the child *in utero* has been observed, the germs being found in the spleens of still born children whose mothers were suffering with the disease. Whether the attack of the mothers was the cause of the death of the children, or whether they died of the disease, is not known; but in each case each child had the characteristic intestinal lesions—the ulceration and infiltration of the lymph follicles and enlargement of the mesenteric glands and spleen.

The typhoid bacillus has been found in the placental blood, and the experiments of Widal proved that the germ may find its way *through* the placenta. So, if the unborn child is not protected by immunization, it is fair to conclude that independent existence cannot confer immunity.

Perhaps the only symptom that is characteristic are the stools. These do not materially differ from those of adults save in the presence of a certain amount of mucus. The abdomen is not usually tympanitic, and so far as my experience goes I have never seen intestinal hemorrhage in infantile typhoid. Epistaxis is often present, but this symptom does not have the value it holds later in life, because children seem liable to nose-bleed from many other causes.

The spleen is generally larger than normal, but not so pronounced in its increase as in adults, and the temperature curve is rather anomalous than otherwise, while the pulse remains rapid throughout.

I do not now recall a case where the eruption was entirely absent, though some presented very few and scarcely distinctive spots.

Mental irritability and early delirium with variable nervous phenomena were observed more constantly than in adults.

The duration is from fourteen to twenty days, or about the same as in older patients.

The prognosis is usually favorable, but the sequelæ are often serious and lasting, consisting of anemia, muscular weakness and loss of resistance to tubercular infection—so much so as to make it questionable as to the wisdom of exposing convalescent children to tuberculosis.

The knowledge that infantile typhoid is apt to be atypical makes it almost imperative to exclude it in all febrile cases of no definite type or characteristic in children. In this wise, other and more serious attacks in other members of the same family may be avoided.

As to treatment, rest in bed, careful diet and little medicine mark the prominent points in uncomplicated cases. In addition, quiet and all unnecessary handling of the patient are insisted upon.

Soups, broths, fruit juices, rice, jellies, animal juices and extracts, water, custards, soft cooked eggs, and, if it agrees, good milk, form the basis of feeding.

Any fussing with the child or bathing for the purpose of reducing temperature is not permitted, as children bear temperature well—much better than annoyance. On no occasion is there a demand for the application of cold; the heat being from within, it seems like folly to attempt smothering the temperature caused by an internal fire by cooling the outer shell. It is here that medicines are indicated, and these are the intestinal antiseptics, such as the sulpho-carbolates of soda and zinc, to the extent of checking *all* fermentative and putrefactive changes in the intestines. These agents should be pushed to the point where the discharges are odorless. They are believed to limit the action of toxic substances in the intestinal canal and consequently diminish the temperature. In this wise there is no demand for antipyretics, such as phenacetine, antipyrine, antifebrine and the like, thus removing a therapeutic source of heart weakness.

Warm bathing is useful aside from mere cleanliness, such as producing quiet or sleep, but the application of cold to a struggling child is a questionable procedure.

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

Meeting of May 8, 1905.

THE PRESIDENT, MAGNUS A. TATE, M.D., IN THE CHAIR.

STEPHEN E. CONE, M.D., SECRETARY.

Iodine Oil.

DR. EDW. H. SHIELDS: During the past ten years I have tried to improve upon some of the various pharmaceutical preparations used in the treatment of skin and venereal diseases, not because they were not efficacious, but because I thought that many of their objectionable features could be removed, enabling me to obtain better and easier results both for my patient and myself.

The first preparation experimented with was mercurial ointment. The only drawback to this preparation, as obtained from the druggist, is that it is often rancid and its use is followed by a folliculitis or an eczema; secondly, it requires a long time to properly apply or rub in 4.00 to 6.00.

As a substitute for the beef-fat I am using goose fat, which, as you know, is very rapidly absorbed, and an ointment of this material for a base will shorten the time of a treatment at least fifteen to thirty minutes; this is something that must not be lost sight of, because all patients find this method of treatment very tiresome.

Being that the melting point of adeps anserine is very low, it cannot be used as a base for mercurial ointment without the addition of wax or paraffin, and the addition of these substances would greatly interfere with its absorption; therefore, I have slightly modified it without the addition of any new substance. This fat contains about 40 per cent. stearine, and by freezing the fat it becomes solid; it is then placed in a filter press and the oil is expressed until only 10 per cent. of the oil remains. The residue will be found to be of a suitable consistence for even a *summer* ointment without the addition of wax, etc. I now add to the fat 1 per cent. of carbolic acid, which keeps it sweet. With this fat the ointment is made in the usual manner.

To summarize its advantages I can state, firstly, it is very rapidly absorbed; secondly, it requires less time for its application; thirdly, it is soothing to the skin and is less irritating than other preparations of mercurial ointment; fourthly, it requires less ointment when this base is used.

Having had such success with the mercurial ointment I now began to experiment with iodine. The first preparation of liquid I tried was the tincture, but owing to it being very irritating I abandoned its use. I then saw a preparation of iodine in "oxygenated vaseline," whatever this may mean, and as it had the appearance of being a nice preparation, it gave me food for thought and started me on what I think is the right track. I then tried iodopin, and as the manufacturer says that it is an addition product, or, in other words, a combination product, it was not what I wanted. I desired a solution of *iodine* that would not be irritating, so you see that in the two preparations "iodine vasogen" and iodopin we have an *idio-something*, but absolutely *no iodine;* this can be readily ascertained by adding some of these solutions to cooked starch and noticing the *absence* of the blue color.

Having considerable residue from my ointment base, I made a solution of metallic iodine, 5.00 to 100.00 of oil, and was surprised to find a perfect solution. I then attempted a 7, 10, 12, 15, 18, 21, 22, 23, 24 and 25 per cent. solution, and though I have not tried to make a stronger solution, I think that with great care of technique stronger solutions can be made; but as I did not think that greater strength possessed more value, I carried my experiments in this direction no further. What I have said seems very easy and simple, but the technique which I employed is quite complicated; firstly, you must have pure sweet goose-fat taken from the belly of the goose; this is then placed in glass jars and rendered, the temperature never being over 190°; the liquid fat is poured off and again heated to 190°, and the water allowed to separate and fall to the bottom of the jar; the fat is drawn off and cooled. Up to this stage the fat has not come in contact with any metal. The oil is now frozen to a low temperature and placed in a filter press, whereby all of the stearine is removed. During the early experimental stage I used a suction filter, but owing to the great loss (being able to obtain 300 00 of oil out of 2,000.00 of fat) I abandoned this method.

The object of exercising such great care was to increase the solubility of the iodine and to prevent the contamination with iron. When the above process is properly carried out we have as a result a dark oily solution, which is nothing more or nothing else than a definite quantity of oil in which is dissolved a definite quantity of resublimed iodine; and, so far as I have been able to investigate, there has been no other oily solution of pure metallic iodine reported. It is a well-known fact that some of the essential oils will dissolve iodine, but at the same time the iodine is changed and we have a new salt or combination formed.

The principal desiderata of iodine preparations for both internal and external medication are: First, they must contain iodine in sufficient quantity to produce the physiological effects; second, it must not irritate the gastro-intestinal mucous membrane; third, it must be easily assimilated; fourth, it should not be changed in its composition before it is ready for absorption; fifth, it must be a parasiticide; sixth, it must be readily and rapidly absorbed; seventh, it should not stain the tissues; eighth, it should require small doses; ninth, it must be in a convenient form for administration; tenth, it should not be depressing; eleventh, it must be in such a form that it can be taken at any and all times, regardless of the stomach being full or empty.

The requisites I shall now take up *ad seriatum*. The full physiological effects are noticed in a very short time. The iodine is readily assimilated, being found in the urine one-half hour after its ingestion. It is not altered in the stomach by the starches, because each molecule of iodine is enveloped in oil, and oil and water do not mix; therefore, there is no action on the iodine. For the last-named reason, this solution does not irritate the mucous membrane of the stomach. Furthermore, the oil is inert in the stomach and no iodine comes in contact with the stomach wall. It contains free iodine, therefore it is a parasiticide. Inasmuch as it is found in the urine one-half hour after the ingestion of the oil and within one hour when the oil is rubbed into the skin, it is demonstrated beyond a doubt that this preparation is rapidly and readily absorbed. It does not stain the tissues. Small doses are required. It is of a convenient form for our patients to carry with them, no vehicle being required. It is not depressing; the usual salts of iodine are often depressing. It can be taken at any and all times, regardless of the stomach being full or empty, for reasons cited above; the only exception being that the stomach be free from alcohol, otherwise we will have a little of the tincture of iodine formed, which, as you know, is not desirable.

After considerable experience with this new preparation (having used about 7,000 capsules) I find that the dosage is from eight to ten five-minim capsules per day.

DR. G. A. FACKLER read a paper (see p. 619) entitled

Cerebro-Spinal Meningitis.

DISCUSSION.

DR. J. L. CLEVELAND: I will open up the discussion for the purpose of starting it, but not with the expectation of saying anything new on the subject.

I have seen nothing of this new epidemic of which we have read. I was just saying to Dr. Isham that I had only seen one case that I suspected might eventually turn into cerebro-spinal meningitis; in fact, when I first saw the case I thought it was one of this disease. The patient was a little girl. She had been vomiting, had headache and convulsions, and at the same time there was some stiffness of the muscles of the neck. In this case I commenced giving calomel on account of the irritable condition of the stomach, and continued it that night. In addition to the calomel I gave her a good dose of castor oil. On the following morning when I went to see her she was quite comfortable. I suppose it was simply a case of convulsions due to an irritable condition of the stomach produced by food, but Dr. Isham tells me, and I recall it now that he tells me, that I have seen an account of some man down South who gives calomel to cure cerebro-spinal meningitis, using it as a specific. Possibly this case of mine was one of incipient cerebro-spinal meningitis which was cured by specific medication. However, I hardly think it was.

Of late years I have seen very little cerebro-spinal meningitis, only sporadic cases. We used to have a great deal of it in the West End, and I saw a great many cases during the epidemics that we had then. These cases that have been reported to-night do not exactly correspond to the cases that we used to have. It seems to me the type (although some of these cases reported were fatal) is much milder. It seems to me that they are either treated better, which I think is very probably true, or the type of the disease in former years was more severe. We did not then know much of the pathology of the disease, and we were lame in the treatment. The treatment at that time which seemed to be the most satisfactory (and I saw a number of what appeared to be quite severe cases get well under it) was the opium treatment. I used opium, generally in the form of morphine, very freely in those cases. Where it was impossible to retain food on the stomach I used it hypodermically without regard to the amount—paid very little attention to that, simply used it for its effect. I do not know whether it was the general consensus of opinion, but it was the opinion of a good many in those days, and I have also seen it verified in the books, that the opium treatment was the most successful treatment we had at that time.

In regard to the presence of spots, the petechiæ, I recall very distinctly that in the cases that I saw it was only occasionally that we had them. We had cerebro-spinal meningitis cases again and again where we had no petechiæ at all, and then again it was very bright and sometimes very dull. I have seen the spots come out in bad cases, and where they would become very dark it was generally an evidence that the case was doing badly, and these cases frequently died. It was often called black smallpox, but in my observation these spots never had any resemblance to the smallpox eruption.

What especially interested me in the report of the cases to-night was that the essayist points out to us a method of making a positive diagnosis—a working diagnosis. He also gives us a reason why it is that some of the cases recover and others are so fatal. He speaks of the drawing off of the fluid from the spinal canal and submitting it for examination, this procedure enabling us to get a more intelligent view of the disease; it also shows us that these cocci may produce different diseases in different parts of the body; that an innocent pus germ in the healthy individual will do no harm; that there is probably a constitutional condition or epidemic condition which permits these different micro-organisms to develop these various diseases.

I was very much interested in the paper, and think it is valuable because it gives us something to think about. The elaboration of the case was very interesting to me.

DR. BYRON STANTON: I have seen a number of cases of cerebro-spinal meningitis, especially when we had such a severe epidemic as we did in 1872. I saw a great many cases at that time, and, although I did not have them under my care, I saw them with some of my older friends in the profession.

I have seen two cases during the present epidemic, one in my own practice, a child four years of age, who was taken sick on Sunday morning at two o'clock and at nine had a temperature of 104°. It was very restless, complained very much when moved about, but there was no opisthotonos at that time. At seven o'clock in the evening it had a convulsion, and the parents put it in a tepid bath. I did not see it in the convulsion, but there is no doubt in my mind that it had it. The bath brought the temperature down to 103° in a short time. I arrived there very soon after the convulsion had ceased, and the temperature at that time was as mentioned above. During the next week the temperature gradually declined, being higher in the evening and receding in the morning, never getting higher than 103°. Most of the time it ranged from 101° to 102° in the morning. On Monday the opisthotonos was marked, and continued until the latter part of the week. It gradually began to decrease Thursday and Friday, and by Saturday it had entirely disappeared. Eruption, in the form of petechiæ, was very free on the chest and neck. but very sparse on the other parts of the body. Vomiting, I think, was present only one day. There was nothing very peculiar about the case. The course of the disease in this case was not very long. The worst symptoms were over in a week, and I made my last visit on the twentieth day. I saw this child yesterday playing out in the street, apparently as well as ever. At the time it had the convulsions there was some convergent strabismus, which was only an exaggeration of a condition that had existed from infancy. That strabismus still remains, but it is no worse now than it was before the child had the attack. When the child began to walk there was some paralysis of the right leg. That has entirely disappeared, and it seems well in every respect and has all of its faculties, so far as I can see, perfectly restored. Of course, I cannot say what may happen in the future.

The other case which I saw occurred in the practice of Dr. Birchard, a case which Dr. Fackler has referred to, and in this instance death occurred in seventeen hours. These are the only two cases that I have been connected with.

Dr. A. D. Birchard: The case which Dr. Fackler and Dr. Stanton have referred to was one of very considerable interest—a fulminating case which terminated very rapidly in a fatal way. The patient was a child eleven years of age, which was apparently well in the morning on arising, but soon after that began to complain of not feeling well. He was sent to the grocery, and shortly afterward went to school. He came home about two hours later, and said that on his way to school he began to feel very badly. He became so much worse that he requested the teacher to allow him to return home. On his way home he fell on the street and some one assisted him home. Very soon after reaching home he lapsed into an unconscious condition, and when I saw him about an hour later (at mid-day) it was with difficulty that I could rouse him. I could get no history of the symptoms from him except that he "felt bad all over, everything hurt him." When I saw him two hours later he was entirely unconscious, and still later he lapsed into a clonic spasmodic condition, and in the course of seventeen or eighteen hours death occurred.

Petechial spots were quite apparent in the after part of the day. When I first saw him they were not visible.

On my first visit the temperature was very high—between 104° and 105°. Vomiting occurred very early in the case—I think before he reached home, perhaps while he was still at school. The case terminated in convulsions.

An interesting fact in connection with the case was the occurrence of a case of meningitis in the same family in a child two years old, who was at that time suffering with whooping-cough in the tenth or eleventh week. This began in the child with a drowsiness, an almost comatose state, with considerable elevation of temperature—I cannot recall exactly what it was. The condition of the nervous system suggested convulsive seizures, which perhaps were warded off through the liberal use of bromide and chloral. Vomiting did occur. The drowsiness existed for several days, with a remittent temperature. The case ran along in this condition for a week or ten days, when the drowsiness passed off, but the fever continued and general irritability followed. The child was extremely irritable and very fretful.

This continued up to four days ago, when the fever suddenly subsided and has remained normal up to the present time. The child still appears to be weak, but is improving. The whooping-cough still continues, but the paroxysms are not so violent.

The question arises whether this was a case of epidemic cerebro-spinal meningitis or whether it was another form. I think the physicians who saw the case agree that it was a meningeal disease; that it may have been a meningitis due to the whooping-cough. The paroxysms occurring in connection with the cough were very violent, such as we sometimes see.

I regret that my attention was not called sooner to the diagnostic procedure which was resorted to in the cases which Dr. Fackler has reported, namely, puncture of the spinal canal. This might have resulted in a more accurate diagnosis.

Dr. F. W. Langdon: I think we are all under obligations to my colleague, Dr. Fackler, for his very comprehensive and full statement of the facts up to date relative to the present epidemic of cerebro-spinal meningitis. It is a matter of a good deal of historical importance, and not an enviable task to get together and put into shape this information. I think that he not only deserves our thanks, but our congratulations for the completeness with which he has done it.

There is very little doubt that the regional distribution of the disease is evidence in favor of its contagious character (bacteriological or otherwise), and yet it may be well to be a little cautious in accepting this regional distribution. There have been cases occurring in the northwest section of the city, and yet this part of the city may be in a numerical sense the most populous portion of the city as regards children. When, however, it comes to finding one, two or three cases of this disease in one family, the evidence is rather more conclusive for its contagiousness as regards communication from individual to individual.

Another fact of importance in connection with the contagiousness of the disease is the duration of the life of the contagium and the long period of time that elapses between cases. I remember some years ago of seeing a case which was rather typical in its manifestations—rapid onset, etc.—in a boy eighteen or nineteen years of age living on a little narrow street in the West End. I saw the case in consultation with Dr. Goode, who had and has still a large practice in that region. After deliberating over the symptoms presented we decided that we had a case of sporadic cerebro-spinal meningitis. When that conclusion was arrived at the doctor recalled the fact that some ten or twelve years before there had occurred in this very street some ten or twelve cases of cerebro-spinal meningitis, the cases all being within a block or so of this place, yet in all those years the neighborhood had been free from cases of this kind so far as the doctor knew, and he did most of the practice there. The young man worked in a factory; he went to work feeling as well as usual, and two hours afterward he was taken home in a serious condition. This patient made a good recovery and was able to go back to work, so I was informed by the doctor. He was not treated with calomel; he did not get the specific which is accredited with curing so many cases. He did get mercurial inunctions, however.

As to the treatment of this disease, it cannot be said that a better knowledge of the causation and pathology has led to any very brilliant discoveries along this line, at least so far as any specific cure is concerned. I think not only the text-books, but our practitioners are too little impressed with the importance of general pathological principles in the treatment of such a disease as this. It does not make so much difference what cocci you have as the causative factor, because the life of all bacteria is limited, and if you can keep your patient alive long enough these bacteria will have run their life course, will cease to multiply and produce an antitoxin which kills them. So it is futile to seek an agent which will destroy the bacteria. But it is another matter to attempt to counteract *the results* of the action of the bacteria and their toxins, namely, *the exudate*. When you have a disease of this character affecting such important and delicate structures as this does, and the essential pathological process of the disease is *the production of an exudate*, it seems to me the sooner we get rid of it or the less we permit it to organize the better. All of the after-effects—deafness, blindness, spasticity, dementia, etc.—which follow the cases which get well are due to a compression of the delicate nervous tissue by an organized tissue product. We happen to possess an agent which is of value in limiting the exudate which occurs in this disease, but it is not of value in the cicatricial stage. In a *recent exudate* where the small round cells, bathed in plastic lymph, have not yet begun to organize into fibroid tissue, the free use of mercury by inunction, or possibly as calomel (the use of which has been referred to to-night) will often destroy the immature cells which compose the bulk of the exudate. If we destroy only a portion of them we lessen the power of the exudate, by that much, to cicatrize, and it seems to me we ought to be willing to take some risk of mercurialization to diminish the risk of destruction of nerve tissue by the subsequent organization of the exudate. It seems to me that it is more important to remember that you have to deal with an exudate of small round cells that you want to get rid of at the earliest possible period of their existence than it is to know what particular kind of a diplococcus or streptococcus you have at work in your spinal fluid.

I have enjoyed the paper very much, and I thank the essayist for his painstaking efforts.

Dr. D. T. Vail: Since I saw in consultation three of the cases reported by the essayist to-night, I may be pardoned for taking a few minutes of the Academy's time to state the condition which was revealed by the ophthalmoscope.

The first case, Jac. Goldstein, was thoroughly unconscious, and I had some little difficulty in getting a view of the fundus on account of the constant rolling of the eyes and head. The margin of the disk was very indistinct and covered by swelling. There was some exudate present, but not much. The veins were very full, but not tortuous; the arteries were apparently normal in size; the smaller blood-vessels, which are usually scarcely discernible, were plainly seen. The picture was one of optic neuritis, but not of choked disk. In cases of choked disk we have large and tortuous veins, while the arteries are reduced in size owing to the constriction at the head of the nerve, and there is intense exudation in the retina, with more or less hemorrhage in the fundus of the eye, especially near the disk. In this case, however, there was scarcely any exudation, the veins were not so swollen, and there was ample circulation in the retina. The picture was such as I have seen in cases of acute retrobulbar neuritis, and there is no doubt that this boy had acute retrobulbar neuritis of the descending type—that is, descending from the brain down to the eyeball.

It was interesting to observe this picture, because it was easy to imagine what the condition of the brain was in this case. We could imagine an intense engorgement and inflammation extending into the brain cells, at least for a short distance from the pia mater.

The second case which I saw, Eva K., had been in the hospital quite a while—fifty-nine days. I found in this case the same condition as in the previous one—the optic nerve inflamed, slight exudation around the disk, margin of the disk indistinct, blood-vessels slightly over-full, no hemorrhage present.

The third case, Anna Sachs, had not been in the hospital so long—nineteen days. In that case I thought I could detect slight evidence of beginning atrophy of the optic nerve, although the appearance of the fundus was about the same as described in the other cases. There is no doubt that in these three cases the exudation had found its way from the perineural sheaths into the substance of the nerve itself, and that there existed a true interstitial neuritis.

Ocular signs of cerebro-spinal meningitis are nearly always present. They all have photophobia, and usually some conjunctivitis. There is no external pathognomonic ocular sign, for the pupils and motility behave very differently in different cases; some have dilated, some contracted, and some irregular pupils; strabismus may be present in other cases. The only definite ocular sign, if it is such, would be this form of optic neuritis which I have described, and I believe it is nearly always present. We occasionally see in our practice cases of blindness, which patients say is due to cerebro-spinal meningitis that existed years before. In such cases we usually find an advanced atrophy of the optic nerve. I have no doubt if the three cases which I mentioned to-night should live, they will show up later on at the clinics or at our offices with more or less loss of vision as the result of an atrophy which is almost certain to follow. We occasionally also see cases of complete shrinking of the globes, the eyeballs being soft and small, lenses cataractous, corneæ roughened and shrunken, eyes which might be likened to cysts more than organs of vision. Such cases give us a history of having had cerebro spinal meningitis years before. In these cases the patients have had septic choroiditis, complicating the meningitis. Purulent material finds its way in some manner into the eyeball, infecting the choroid and causing a purulent inflammation of a mild type, resulting in shrinkage of the eyeballs and blindness. The manner in which this septic material could find its way into the globe might be explained in two ways: First, from the sheath of the nerve substance, from thence into the eye by direct continuity of structure; second, some septic embolus might lodge in the choroid and set up an independent focus of inflammation. The essayist mentioned to-night that in certain of his cases septic material had produced septic emboli in various parts of the body, and it is easy to see how such a thing could take place in the eye. It is not known how these cases of septic choroiditis develop, whether from the sheath of the nerve or from the blood current. I think in these cases of cerebro-spinal meningitis it is quite important to have an ophthalmoscopic examination made in order to fix the diagnosis, for I believe that double optic neuritis invariably exists.

Dr. Fackler: I had hoped that this paper would lead to a rather more extensive report of cases of cerebro-spinal meningitis occurring in Cincinnati during the present epidemic. I did not care in my paper to refer to the literature on the subject, in which there are frequent notices of variations of type in the manifestations of the disease. Dr. Cleveland has referred to epidemics in which the majority of cases were not only of the fulminating character, but were marked with severe convulsive symptoms and with opisthotonos. I remember myself a slight epidemic which occurred, I think, in 1884, in which I saw my first cases of cerebro-spinal meningitis. The cases were two children of the same family living in the upper part of town, both of which had an extreme degree of opisthotonos, and both died with convulsions in three or four days after the inception of the symptoms.

I hardly think that we can consider density of population as a causative factor in the cases which occurred in the northwest part of the city. If density of population has anything to do with it we ought to have had a larger number of cases occurring in the district which would be comprised in a line running in a transverse direction across from the upper part of Main and Walnut Streets to Abigail and other streets in that neighborhood, in which are located many tenement-houses containing a large number of families with a still larger number of children. It ought also to have appeared along Carlisle Avenue and West Sixth Street, where the children are packed in houses in a pretty dense fashion. To account for the appearance of this disease in various portions of the city is just as mystifying to me as to others, and to explain a case as it occurred sporadically in the experience of one of the speakers in a locality where the disease had not appeared before for many years, is just as hard to me as it is to him. But such a case is not any more difficult of explanation than a sporadic case of measles or scarlet fever.

One of the speakers has referred to the life of the micrococcus of cerebro-spinal meningitis. That the diplococcus, like the organisms of some other infectious diseases—scarlatina, measles, etc.—perishes quickly outside of the body has been alluded to in the paper. It must not be forgotten that the majority of cases of acute meningitis, which have occurred sporadically, cannot be attributed to the specific organism of the epidemic form of the disease. In only two of twenty-four sporadic cases examined by Netter in 1888 did he find the diplococcus intracellularis. To April, 1897, he had examined sixty-one cases, in only three of which the disease could be attributed to the specific germ. Malenchini studied thirteen cases of sporadic meningitis at Florence without finding the diplococcus in one, and the same negative result was secured by Councilman and others, who examined twenty sporadic cases in Boston. In Councilman's last article he states that since 1898 there have been sixty-one autopsies on meningitis at the Boston City and Massachusetts General Hospitals with bacteriologic study of the exudation. In thirteen of these the diplococcus intracellularis was found in culture. Thus there is furnished absolute evidence demonstrating the rare occurrence of the diplococcus variety of the disease in sporadic form, and supporting the contention that in the vast majority of all sporadic cases the disease is due to some other organism, usually the pneumococcus or streptococcus.

Editorial.

MARK A. BROWN, M.D., Editor.

CINCINNATI, SATURDAY, JUNE 3, 1905.

ENTAMEBA COLI AND ENTAMEBA DYSENTERIÆ.

Slowly but surely we are advancing in our knowledge of the diarrheal diseases, and the researches of Schaudinn, recently confirmed by Craig,[1] have shed not a little light on the etiology and pathology of these obscure affections. Briefly, these observers have found and described minutely two species of ameba affecting the intestinal tract of men, one species harmless and found in health as well as in diseases other than dysentery, the other pathogenic and found only in individuals suffering from the amebic form of dysentery. To these two species have been given the names *entameba coli* (non-pathogenic), and *entameba dysenteriæ* (pathogenic), and they are to be readily distinguished one from the other not only by differences in their morphology, but also by marked variation in their method of reproduction. It is due to the fact that the two varieties may not infrequently occur in the same patient that their differentiation has for so long a time escaped notice. Obviously, these two different forms should be most carefully studied, as undoubtedly in the past cases supposed to have been amebic dysentery were, as a matter of fact, diarrheas due to other cause or causes, but in which the harmless variety was present in the feces, and were looked upon as the ameba dysenteriæ.

Craig's studies as typifying the work actually to be encountered in this country is particularly interesting. His observations were made in San Francisco, upon soldiers, as a rule, Americans gathered from every part of the country, some of whom had been engaged in tropical service, others not. He found that after administering some saline cathartic, preferably sulphate of magnesium, to normal individuals, in over 65 per cent. were demonstrated the harmless amebas, while nearly 50 per cent. of cases of diarrhea or other disease also showed these parasites, from which data it can be readily inferred that the harmless ameba is a very common inhabitant of the intestinal tract of man. Of special interest, of course, is the fact that without expert training one is very liable to mistake the harmless form for the pathogenic, or, in other words, a faulty diagnosis of amebic dysentery, in the light of previous study, can not be looked upon as particularly infrequent.

Craig's work has received corroboration in other parts of the world. Thus Schuberg, in Germany, was able to demonstrate the ameba in 50 per cent. of healthy individuals examined, and Gasser, in France, in 20 per cent. Schaudinn, who was the first to separate the pathogenic and non-pathogenic amebæ, found in 385 examinations the ameba coli 256 times, which agrees very closely with Craig's experience. Continuing his examinations in Berlin, however, Schaudinn found the parasite in but 20 cent. of his cases. Dock has found them in even smaller percentage, so that it is very probable that the number of those infected varies quite widely with the locality studied. As far as we now know, the non-pathogenic form of the parasite is without detrimental effect upon the human economy, which, in view of the widespread of the infection, is extremely fortunate.

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[1] American Medicine, May 27, 1905.

GREETING TO THE CLASS OF 1905.

During the present month thousands of young men throughout the country will have finished the prescribed courses in our medical colleges and have become full-fledged practitioners of medicine. To these is extended by all most hearty congratulations and best wishes, not alone for their material, but their professional success as well.

Naturally, our hopes are most centered in the graduates of our local medical schools. As can be seen from notes in another column of this issue, out of the total graduating classes of the two regular schools of medicine of this city, numbering in all fifty-five, thirty, or almost 55 per cent., have received appointments as internes to various hospitals, which will necessitate another year or eighteen months of study before they are ready to really enter the field. Not alone this, but many of these internes, stimulated by their post-graduate work as they have never been by previous study, will take other courses abroad, widening the scope of their work and fitting themselves for the very highest honors that our profession affords. Of the twenty-five who remain unplaced it may be said that they have tried for hospital appointments, but owing to the strong competition have just missed their goal; others, owing to various family ties, lack of money, and other causes, have felt that they must at once enter into active practice; still others will secure additional education in the post-graduate schools with which the country abounds. It is safe to say that almost, if not quite, 75 per cent. will secure medical knowledge other than that provided by their *alma mater*. Every year the proportion of hospital-educated physicians is becoming larger and larger, and it cannot be denied that this tends toward the making of more skilled physicians. Some of these institutions naturally offer greater advantages than others, but in all the studious and thoughtful interne can add to his store of knowledge facts that he dreamed not of in his student, theoretical days.

It will also be noted on the lists above how many are the men who have been secured for hospitals in other cities, often in remote states. This shows more than anything else that Cincinnati, while not graduating as many students as in days gone by, is more than keeping abreast of the times as far as teaching facilities go, and is turning out graduates that pass State, hospital and public-service examinations with the veriest ease. What more can the prospective student of medicine desire? A diploma just as valuable as that of the larger institutions in the East, signed by men, while perhaps not so well advertised, certainly as good teachers and clinicians, and to him who is willing to do a little extra work an almost absolute guarantee of a post-graduate hospital training second to none. The time is coming when this hospital training will be demanded by the public as a *sine qua non* of the medical graduate. It is a step in the right direction, and we will all hail its advent with enthusiasm.

REGISTRATION OF CONSUMPTIVES.

While many physicians regard the ordinances requiring the report of births and the presence of contagious diseases in the families of their patrons as an infringement upon their rights and professional prerogatives, they may as well make up their minds, and that quickly, that no protest or attempted non-conformity on their part is going to stem the further advance of this exceedingly valuable adjunct in the preservation of the health of the community.

Perhaps physicians should not be judged too harshly for their attitude, as they think they stand between the heartless and inexorable health authorities and their poor and about-to-be-oppressed patients. We seem to lose sight of the fact that the health officer deals with the community and the physician with the individual. Professionally, the former cares nothing for the individual unit except as it goes to make up the aggregate, and his interest in you and your individual patient is because of the bearing on his duties and not because of a desire to meddle with your personal relations with a patient. On the other hand, many physicians are entirely oblivious of the interests of the community if they think they can subserve their selfish ones by conforming to the requests of insistent patrons. This brings the health officer and the physician in antagonistic positions, and instead of the former saying, "please," to which you give the courteous retort, "certainly," and lock arm with his, he apparently faces the necessity of making a less courteous request, and securing a more prompt response.

In the long run physicians will not make a mistake by refusing to hold aloof from giving to the community the means which protects it, and which might, if neglected, result in personal damage to many innocent persons.

Let us stand by our health officer. Up to the present time he has only requested the report of the presence of tuberculosis in the families of our patrons. The response has not been such as to indicate much attention being paid to the request. We must not feel offended or persecuted if the request develops into a demand, as the conditions are changing to such a rapid degree throughout the country that very effective measures will soon be taken by the health authorities to stamp out consumption. B. F. L.

EDITORIAL NOTES.

THE eighty-sixth annual commencement of the Medical College of Ohio, Medical Department of the University of Cincinnati, was held on the evening of May 30 at the Grand Opera House, graduating a class of thirty-three. Addresses were made by the Dean, Dr. P. S. Conner, President Charles W. Dabney, of the University, and the valedictory by Dr. E. Gustave Zinke, the latter selecting as his subject "The University as a Factor in the Community." Out of the class of thirty-three, eighteen secured hospital positions as follows:

Resident Physicians, Cincinnati Hospital—Dr. Ernest O. Swartz, Kings Mills, O.; Dr. Leslie W. Stacey, Norwood, O.; and Dr. Adolphus W. Foertmeyer, Cincinnati.

Resident Physician, St. Mary Hospital—Dr. Francis F. Kramer, Cincinnati.

Resident Physicians, Christ Hospital—Dr. Walter H. Bush, Madisonville, O.; and Dr. Paul D. Espey, Rising Sun, Ind.

Resident Physician, Jewish Hospital—Dr. Leon G. Tedesche, Cincinnati.

Resident Physician, St. Elizabeth Hospital, Dayton, O.—Dr. Robert Conard, New Vienna, O.

Resident Physicians, National Jewish Hospital, Denver, Col.—Dr. Charles M. Hendricks, Eaton, O., and Dr. Thomas Longworth, Milford, O.

Resident Physician, St. Mary Hospital, Pueblo, Col.—Dr. Francis E. Bertling, Cincinnati.

Resident Physician, German Deaconess Hospital—Dr. James E. Heap, Ft. Recovery, O.

Resident Physicians, Good Samaritan Hospital—Dr. William H. Strietmann, Cincinnati; Dr. Emmett Fayen, Cincinnati; Dr. Robert W. Thomas, Cincinnati, and Dr. Wesley L. Furste, Cincinnati.

Resident Physician, Charleston General

Hospital, Charleston, W.Va.—Dr. George Kent Varden, Paris, Ky.

Resident Physician, St. Raphael Hospital, Trinidad, Col.—Dr. Lawrence M. Spitzlberger, Dayton, Ky.

The following prizes were awarded:

Prof. Ravogli's prize in dermatology, a gold medal, to Dr. Francis F. Kramer, Cincinnati.

Prof. Bonifield's prize, a case of instruments, awarded to Dr. Ernest O. Swartz, Kings Mills, O.

Prof. Zinke's prizes for excellence in clinic, cases of instruments, awarded to Dr. James E. Heap, Ft. Recovery, O., and Dr. Henry A. Zimmerman, Cincinnati.

Prof. Holmes' prize for best examination paper in otology, rhinology and laryngology, $10, awarded to Dr. Francis F. Kramer, Cincinnati.

Prof. Holmes' prize for best synopsis of his lecture, $10, awarded to Dr. Francis E. Bertling, Cincinnati.

Prof. Paul's prize for surgical pathology, pocket case of instruments, awarded to Mr. J. Risk Meek, Falmouth, Ky.

Faculty prize for best final examination in all departments, a gold medal, awarded to Dr. Leslie W. Stacey, Norwood, O.

Honorable mention: Dr. Ernest O. Swartz, Kings Mills, O., and Dr. Francis F. Kramer, Cincinnati.

THE commencement exercises of the forty-fifth session of the Miami Medical College were held at the Auditorium on the afternoon of June 1. The programme consisted of addresses by the Dean, Dr. John C. Oliver, Hon. Jacob Shroder and Rev. Robert Watson. A class of twenty-two was graduated, twelve of whom were fortunate enough to secure hospital positions, as follows: Miriam Schaar, T. P. Scott, M. H. Urner, Cincinnati Hospital; Theodore Bange, German Deaconess Hospital; S. P. Garrison, Speers Hospital, Dayton, Ky.; R. E. Gaston, W. S. Kautz, Jewish Hospital; J. W. Hutchins, Marine Hospital; M. L. Landman, Christ Hospital; M. A. O'Hare, W. W. Sauer, St. Mary's Hospital; C. J. Woods, St. Joseph's Hospital, Savannah, Ga. In the evening the Alumnal Association of the College met at the Phœnix Club, where an elaborate banquet was held.

THE Cincinnati Chapter of the Alumni of the Medical College of Ohio held a reunion and banquet last Monday evening at 7 o'clock at the Majestic. More than two hundred from Ohio, Indiana, Kentucky and West Virginia were present at the banquet. Dr. James W. Rowe was Toastmaster. The speakers and their topics follow:

Charles W. Dabney, LL.D., President of the University of Cincinnati, "The New Medical Education."

Robert Conard, of New Vienna, Ohio, "1905."

William Perry Rogers, LL.D., Dean of Cincinnati Law School, "Expert Testimony."

Dan. Millikin, M.D., Hamilton, Ohio, "If Hippocrates Were Alive To-Day."

Frank B. Winn, M.D., Indianapolis, Indiana, "Hoosier Diet and Dialect."

P.C. Layne, M.D., Ashland, Kentucky, "Beauty and Bluegrass."

W. D. Haines, M. D., Cincinnati, "Æsculus Glabra."

Joseph Ransohoff, M.D., Cincinnati, "Our Alma Mater."

REPORTS OF CASES OF CEREBRO-SPINAL MENINGITIS.—The Secretary of the Ohio State Board of Health issues the following:

COLUMBUS, OHIO, May 1, 1905.

To Boards of Health and Health Officers:

Section 2125 R. S. provides that attending physicians shall report certain diseases to the boards of health within whose jurisdiction such cases are found. In addition to the list of diseases given therein, the section also provides that physicians shall report such other diseases as may be "required by the State Board of Health to be reported."

At a meeting of the State Board of Health held April 26, 1905, it was voted to add *cerebro-spinal meningitis* to the list of diseases which physicians are required to report to the local health authorities. You should have this announcement made in one or more papers of general circulation in your community.

In taking this action the Board does not mean to class this disease among the contagious diseases. It is not thought to be contagious, and there is no good proof that it may he communicated from one person to another. The State Board, therefore, will not require quarantine or other preventive measures usually followed in contagious diseases. The health authorities of the city of New York, where the disease has been widely prevalent, have not considered it necessary to enforce such measures. As it is not absolutely certain, however, that this disease may not rarely, under unknown conditions, be communicated from one person to another, there can be no objection if your board of health deems it necessary, to provide for isolation of the patient, disinfection of the house and a private burial in such cases.

Yours truly,
C. O. Probst, M. D.,
Secretary.

By order of the Board.

Miami Medical College Appointments.—Dr. E. W. Walker, Professor of Principles and Practice of Surgery; Dr. O. P. Holt, Professor of Pathology; Dr. Frank Lamb, who has spent the last year in physiological laboratories in the East, Lecturer on Physiology; Dr. Robert Ingram, Adjunct Professor of Materia Medica and Therapeutics.

Academy of Medicine.—On Monday evening, June 5, Dr. F. Fee will read a paper on the "Microscopic Diagnosis of Carcinomata;" Dr. M. Salzer on "Congestive Hyperemia in the Treatment of Acute Suppuration."

FOR RENT — Physician's office on Linn Street, west part of Cincinnati. Especially designed and built for physician; equally well adapted for a dentist. Location 1545 Linn Street. Telephone for particulars—West 4-19 Y.
Mrs. E. S. Taylor.

Otology.

C. R. HOLMES, M.D.

Radium in Nose, Throat and Ear Diseases.

Joseph C. Beck, Chicago (*Chicago Medical Recorder*, December, 1904), reports on the use of radium in some nose, throat and ear cases. He used a capsule of fifty milligrammes of radium of 10,000 radio-activity made by the Curies, of France.

Case 1.—Primary tuberculosis of the nasal septum. Female, aged thirty. Thirty-three applications of radium bromide from five minutes to half an hour in duration, in each naris as close to the growth as possible, at first every day, later three times a week, and finally once a week. The headache and pain disappeared after the second treatment. After six treatments the mass looked better and did not bleed so easily on touch. There was no appreciable diminution in the size of the growth, but it appeared harder.

Case 2.—Married female, aged thirty-nine. Severe nasal symptoms of secondary syphilis, notwithstanding the most energetic constitutional treatment. Patient had received large amounts of iodopin injections for the preceding eleven weeks and the urine showed free iodine. Constitutional treatment was discontinued and radium treatment alone employed. Applications were made intra-nasally, allowing the tube to remain on the various portions of the ulcerated nasal cavity for twenty minutes every day. After three treatments the odor was markedly diminished and the pain very much less. In two weeks the surfaces of the nasal cavity were in a fairly good condition and healing and the pain almost entirely gone. Beck considers the effect purely local, and as due to the bactericidal action of the radium, particularly on the saprophytic organisms.

Case 3.—Girl, aged sixteen. Sarcoma of both nasal cavities. Just previous to commencing the use of radium a third and very extensive cutting operation by Dr. Ballenger, the cavities having been completely exposed from in front, had removed all the visible sarcomatous masses. The radium treatment was undertaken to prevent recurrence, if possible, and to relieve the extreme pain in the nose and head, which were not affected by ordinary anodynes. Tube was placed in nasal cavities daily for four days. Not much relief from pain, but patient slept better and felt drowsy immediately after treatment. Fifth day some relief from pain. Sixth day positive relief. After the twelfth day a whole day was passed without pain. Discontinuing treatment, the pain returned. Resuming treatment, pain was relieved for two days. After another treatment pain was relieved for four days. A capsule similar to the radium capsule, but containing prepared chalk, was then used, but the patient did not feel drowsy and there was no relief from pain. The use of the radium again relieved her of pain for three days. From that time the radium always acted as an analgesic, and acted more quickly and for a longer time the longer the period of the application. At the last examination the nose was getting somewhat occluded, perhaps by the malignant growth, but there had been no metastases.

Case 4.—Married female, aged thirty-two. After the removal of a ridge from the nasal septum patient complained of persistent pain. After the third application of radium for a period of five minutes to the seat of pain the patient was relieved, and after the fifth treatment she declared she had no more pain.

Case 5.—Male, aged thirty-nine. Sycosis of the vestibule of the nose. Under ordinary measures the healing was slow or negative. The radium tube was applied to the ulcerated surface five treatments for a period of ten minutes each time. The patient became impatient, the radium treatment was adandoned and the negative pole of a blunt and electrode needle was used. The ulceration healed rapidly. Beck attributes the healing to the effect of the radium on the ground that the use of electrolysis or anything else in sycosis has always been very unsatisfactory.

Case 6.—Male, aged twenty-six. Lingua nigra. The radium was applied on top of the tongue for ten or twenty minutes for several sittings one week apart. After a few treatments the masses could be easily removed, and after the seventh treatment the tongue became clean and remained so.

Case 7.—Female, aged twenty-one. Tubercular laryngitis. Application of radium three times a week for half an hour at each sitting. Slight relief from pain. Pain was so severe, however, that the radium had to be supplemented by an application of lactic acid. The relief of pain was more marked when radium was used along with the topical applications.

Case 8.—Male, aged fifty-seven. Carcinoma of the larynx. Dysphagia, dysphonia, insomnia. Application of radium gave some relief to pain, so that less opium was necessary. At the end of seven weeks a violent hemorrhage occurred and exitus lethalis took place in two or three days.

Case 9.—Female, aged fifty-one. Arthritis deformans, severe tinnitus. Chronic catarrhal otitis media. Ossiculectomy. Radium tube applied to tympanic cavity every day from five minutes to one hour for a period of six weeks. No relief.

Case 10.—Male, aged seventeen. Otitis media suppurativa chronica, with necrosis of ossicles or temporal bone. Radium applied for fifteen minutes even three days for ten treatments. The odor was modified and the discharge lessened, pains in the ear were less marked, but as the benefit did not seem to justify further delay the radical operation was done.

Case 11.—Female, aged twenty-four. Tubercular otitis media secundaria. Daily treatment with radium in both ears and the nose. For two weeks no improvement whatsoever. Thereafter, although there was no relief of pain, the patient slept better. No improvement in local conditions mentioned. During each treatment the patient developed a distinct erysipelatous flush of the face, with a distinct line of demarcation and a rise of temperature to 100.5° F.

Acetozone in Atrophic Rhinitis.

J. M. Brown, Chicago, reports six cases of atrophic rhinitis markedly benefited after several months' treatment with local applications of acetozone (benzol-acetyl peroxide). The preparation used was one part of acetozone to three parts of liquid petrolatum, with the addition of a few minims of ol. gaultheria to make the odor more agreeable.

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In whooping cough, amyl nitrate, 10 per cent. solution in alcohol; one-drop dose in a teaspoonful of water after each coughing spell; acts like magic.—*Med. Summary.*

The Lancet-Clinic

A Weekly Journal of Medicine and Surgery.

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NEW SERIES VOL. LIV. JUNE 10, 1905. WHOLE VOLUME LXXXXIII.

OUT-DOOR TREATMENT OF PULMONARY TUBERCULOSIS.*

BY BENJAMIN F. LYLE, M.D.,
CINCINNATI.

Since the efficiency of the beneficent trinity—sunshine, fresh air and good food—has received acknowledgment as a potent factor in the physical regeneration of phthisical man, other agencies have to a large extent been cast aside.

To-day the darkened room and silent house no longer attest the presence of the consumptive with fast-waning strength. The superheated air no longer adds a flush to the already hectic cheek; nor are the erstwhile essentials of the sick room—the jug, with its potent stimulant, the nauseous cod-liver oil and the calm-inspiring opiate—present.

To-day, with his wan and feeble limbs encased in the habiliments of the athlete, our modern invalid dons his cap, and, like a hero, sallies forth to fight his foe under the azure skies and upon the green sward. Imbued with the idea that he can only be victorious through ceaseless effort, he labors unremittingly, hoping thus to create the physical vigor that will gain for him the prize of health renewed. Sometimes his efforts will be toward the accomplishment of a long walk, an ardueus manual task, or a long, exhaustive journey on horseback. In all these cases of unfortunately directed effort the goal attained is not the one expected, and is apt to prove only a guide-post pointing the way to Charon's ferry across the River Styx.

I do not think this description is very much overdrawn, although there are indications that the epoch of strenuosity in the treatment of tuberculosis is about to wane.

Cut and dried rules in the treatment of any ailment are to be deprecated. In no disease does the patient require more careful observation and detailed advice suited to his special needs than in consumption. The treatment varies greatly according to the progress of the disease, and the general physical condition and recuperative powers of the patient. In advanced cases the old method is the best. The comfortable fireside, the services of sympathetic relatives, the freedom from care and the leave-taking in the arms of loved ones should not be superseded by the long journey to unknown regions, where the stranger, with hesitating service, administers to his need, and all the comforts of home are sacrificed to the greatly exaggerated view of the value of climate in the cure of consumption. Slowly but surely the profession is beginning to realize that revolutionary methods, vaguely understood, in the treatment of consumptives are inhuman and unnecessary.

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* Read before the Ohio State Medical Association, at Columbus, May 12, 1905.

Sad, indeed, are the stories we hear from physicians who practice in the localities where consumptives are now sentenced to abide. Without sufficient funds to defray his expenses, the invalid goes with the vain hope of being able to secure employment in order that he may stay until he has regained his health. Disappointed, he secures cheap and unsanitary quarters, lives upon improper food, and in every way finds his new conditions much inferior to his home environments.

I do not wish to maintain that no benefit is to be obtained from climatic changes; there are too many instances of recovery to confute such a contention. What I wish to affirm is that no advantage can be obtained from a change unless the patient is provided with a sufficient amount of funds to remove him from the necessity of attempting to add to them through his own efforts in his new locality.

After all, climate deserves but slight consideration in the array of useful measures for treating consumption, as not over 2 per cent. of persons with the disease can ever avail themselves of its reputed advantages.

Let us, therefore, dismiss this much-hackneyed question of the advantages of climate, which really depend upon the purity of the air, and consider the multitude of patients in our midst who depend upon our advice for their restoration to health.

Good food, proper clothing and freedom from work and care have always been accorded their proper recognition. The only method of treatment that may be recognized as an advance since the inadequacy of drugs has been recognized is our manner of giving our patients the benefits of fresh air.

First, we will consider the method of housing the patient. Must he live in the open air? Yes, always. An individual who spends his evenings with the family in the library, or who attempts to gain health and still perform his work, or attend to his social duties, is not apt to be benefited to any extent. Getting well must be his sole purpose, and to it he must devote all his time.

It is admitted that fresh air, sunlight and the other beneficent agencies of an out-of-door existence can be obtained in greatest degree when the habitation is removed from proximity to dwellings and is remote from dust and disturbing agencies.

Under ordinary conditions the lack of toilet conveniences makes the proximity to the house almost necessary.

To Brehmer, the father of modern phthisio-therapeutics, we owe a great debt of gratitude. In order to strengthen the heart, which is always weak in consumption, he advocated exercise, and, in some instances, hill climbing; tachycardia was the only contraindication in moderately advanced cases. His advocacy of exercise has resulted in this valuable measure being greatly overdone. Dettweiler, his pupil, advocated rest rather than exercise, except in incipient cases. Unfortunately, the majority of the profession still observe the practice of Brehmer, frequently to the detriment of their patients.

A slight amount of exercise is advisable, but when prescribed the patient should be closely observed, and if the temperature rises more than one degree the amount of exercise should be lessened or entirely discontinued. Life in the open air is intended to secure a constant supply of fresh air and the stimulating effects of sunshine.

For the securing of these advantages many means are adopted. The use of a room with a southern exposure and windows placed at right angle to each other are all that many can secure. If an open fire-place is available this method will at times allow of good results if the windows are kept constantly open. The disadvantage of this procedure, outside of the fact that the ventilation is not ideal, is due to the temptation to mingle in the library with the other members of the family.

It is the constant life in the open air that results in beneficial effects. A modification of the room method, as practiced at the Massachusetts State Sanatorium, is effected by projecting the head through the window at night. Attached to the lower sash, which is raised, is a curtain, which is allowed to fall about the patient's neck. This method has the doubtful advantage of allowing the body to be exposed to the warmth of the room, while with a cap on his head the patient secures the benefit of the outside air while he sleeps.

Knopf has recently devised an inside tent connected with the open window. By this arrangement the patient is constantly breatning the fresh air. The apparatus is about three feet in all dimensions, and covers the upper half of the bed. It is entirely of canvas except the part open to the outside. He has also proposed a large tube, five inches in diameter, made of cloth, held patulous by spiral wire. One end is fastened to an opening in the window; a cap at the other end covers the head of the patient.

Next comes the method frequently resorted to because of its convenience and lack of expense—the use of the porch. This method has many advantages over the preceding, as the air is better; its disadvantage is that the patient is usually in a draught, and when an effort is made to obviate it by placing screens at the end of the porch the supply of fresh air is interfered with.

The use of perches in trees has only the spectacular to recommend it. The shade, moisture, and inaccessibility will never allow this return to our primitive arboreal existence to become popular.

Life in tents is now the prevalent method of obtaining the advantages of the out-of-door life. Unfortunately for this method, there are tents and tents, and some are absolutely unfitted to carry out the purposes of the treatment. This criticism applies to possibly 90 per cent. of the tents now in use, which are the ordinary square tent, with or without a fly. It is almost impossible to ventilate them when the weather is cool enough to make it necessary to lower the sides. Many think the diffusion of air through the canvas is sufficient to supply all the fresh air needed. This is an error. The familiar example of the miner's lamp is an illustration of this; although its efficiency is supposed to be due to the cooling off of the contained air by the wire gauze, no doubt the poor diffusion of the gases have an important influence.

Besides the poor ventilation, we must also accuse the tents of being damp and chilly when the weather is cool, and, finally, of entirely shutting out that most beneficent agent, the sunshine, with its light and the actinic rays, which play such an important part by influencing the constructive metabolic processes of the body.

Efforts have been made to obviate the disadvantages of the poor ventilation in tents. The endeavor is to admit a free supply of air by placing the tent on a platform and having an inch space between the floor and the sides of the canvas. Above, an opening allows the impure and heated air to escape. Gardner's tent is one of the best of this kind. It follows in its general lines the form of the Indian tepéé and has a ventilator at the top which can be raised or lowered to suit the exigencies of the occasion.

By separating the canvas of the ordinary tent by means of heavy bands, three inches wide and two feet long, placed over the apex of the frame, the ability to ventilate it is vastly improved. A piece of canvas arranged to slide over the bands will permit the regulation of the openings.

The lack of light in the tents, which, when closed, shut the patient off from his surroundings, with the effect of increasing his loneliness, is obviated to a certain degree by placing windows in the sides of the tent.

The various inconveniences of the tents make us inquire why they are used at all, and the only answer seems to be because they are light and easily carried. For the consumptive these are doubtful advantages. If the flaps of the tent are raised the privacy of the patient disappears. During the warm weather he is annoyed by flies and mosquitoes unless he protects himself with a bar, which cuts off the air and increases the oppression of the heat.

All of the advantages of the tent are gained and its disadvantages obviated, except that of the first cost, by the erection of shacks. One which I had erected recently is nine feet wide and ten feet long; its height is nine feet. It is placed on a platform two feet from the ground. The floor is double, with a layer of impermeable material between the boards to prevent the moisture from the ground making the place damp. The north side is made entirely of flooring. Both sides and the space in front not needed for the door is built up with flooring for four feet. This allows of the necessary privacy. Above this for four feet there are lights placed in hinged frames that open into the room in order that screens can be placed on the outside. Above the windows is an open space of one foot, over which a coarse piece of wire screen is tacked. A piece of canvas which can be raised and lowered from the inside protects the occupant from rain or the effects of strong winds. The upper half of the door is also of glass. In summer it may be necessary to cover the roof with canvas to prevent the sun shining on it and making it too hot. This contrivance is cheerful and gives the occupant an opportunity to survey his surroundings while enjoying the beneficent influences of the sun. Ventilation is secured by means of openings made near the floor and the open space above. Heat may be maintained in winter by means of an open-grate Franklin stove or by one of the modern down-draught stoves which will hold the fire for a considerable time.

Through practical experience I have come to the conclusion that the ordinary tent should not be used for consumptives in this climate during the cold months of the year—from October to May.

Were I to summarize my idea of what the treatment of our consumptive patients should be in the present time of too-long-delayed diagnoses, I would say, life without activity in a shack, situated in a location where the sanitary conditions are good, with the patient supplied with a an abundance of proper nutritious food and friends to encourage him in his journey toward health.

INFECTION OF TRANSPORTATION.*

BY H. M. BRACKEN, M.D.,
MINNEAPOLIS, MINN.,
Secretary Minnesota State Board of Health.

In discussing this subject it can safely be said, I think, that there should be no danger of possible tubercular infection while traveling in public conveyances. For tubercular infection there must, as a rule, be prolonged exposure, and this should never occur in any public conveyance. In the street cars one spends but a short time on any single trip. In the suburban trolleys the crowded condition in the cars and the longer trips make the possible exposures more pronounced than in the city cars. In the day coaches of railway trains one is not in close contact with other individuals and even should a tubercular patient be sitting nearby, the tubercular bacilli expelled in the act of coughing are in a moist state and not in condition for general distribution until the sputum becomes dry. In sleeping cars and on steamers one is even more isolated than in the day railway coaches, and the danger of possible tubercular infection should be still less.

In speaking thus of possible infection during transportation we are assuming that all public conveyances and their furnishings are kept well cleaned. If such is not the case there may be danger in every street car, railway coach and steamer berth. If tubercular patients deposit infected sputum in public conveyances and it is allowed to become dry, it may then be a source of danger. The greatest danger from lack of cleanliness is undoubtedly to be found in the sleeping cars and steamer berths where one may be in contact with infected bedding during an entire night. The danger of tubercular infection during travel may be intensified by the lack of proper ventilation, for when an individual is confined in close, stuffy quarters, the irritation of the respiratory tract may be sufficient to increase his susceptibility; or an already infected individual may have an inflammatory condition of the lungs intensified by foul air or draughts, thus changing a latent to an active infection. Admitting that tubercular infection is not apt to occur during

* Read before the Sociological Section of the National Association for the Study and Prevention of Tuberculosis, Washington, D. C., May 18–19, 1905.

any single trip in a day coach, we must still appreciate the fact that exposure in such coaches is possible, for many people spend a considerable amount of time each day in city and suburban cars on their way to and from business.

THE OPINIONS OF STATE SANITARIANS.

The important question then is: Are cars properly cleaned and ventilated? Some one in authority should be able to answer this question. Let us quote a few opinions bearing upon the possible danger of tuberculosis infection in cars.

One sanitarian from a State where there is much tuberculosis says:

> Regarding the question of car sanitation and possible tubercular infection of travelers, I consider it beyond any question of doubt that tubercular infection may be transmitted from infected cars to passengers. I do not believe, however, that this often occurs, for the reason that travelers are in the cars for a short time only, but I can readily understand how infected cars might be a means of subjecting individuals having a tubercular tendency to the dangers of infection. Theoretically, an infected car is as great a source of danger as is an infected room, for while in transit there are constant draughts through the car which interfere with the tubercle bacilli that may be present in the air settling to the floor by gravity. Again, the blanket and permanent fixtures of Pullman cars, especially if the berths have been used frequently by tubercular patients, are sources of danger even to a healthy individual, for he is brought into close contact with these articles. As regards car cleaning: The day coaches are seldom subjected to anything but ordinary sweeping, and I can see no reason why they should not be a source of danger to the traveling public, not only from tuberculosis, but also from other contagious diseases. The lesson I have learned while traveling is, that at the end of the journey the ordinary day coach is extremely filthy because of the refuse left by passengers. This, of course, is not harmful so far as disease is concerned, but it shows a lack of cleanliness on the part of the public.
>
> As regards the question of car sanitation, I think there should be some uniform action taken by all the railroads and that all States through their boards of health should insist upon this. I believe it is a great mistake for States independently to pass regulations relative to car sanitation and attempt to compel railroad companies passing through their borders to observe the same, for this would cause a great deal of confusion and would not be effective.

Another State sanitarian says:

> In 1904 our board sent the following to all the railway companies operating in the State:
>
> "*Resolved*, That the present method of sweeping railway coaches while in transit is a nuisance and is dangerous to public health, and the railway companies are urged to adopt some more sanitary method."

Our resolution was in the nature of a request, rather than a demand. Even if our suggestion was carried out, this would not entirely eliminate the danger of infection from tuberculosis, etc., but it would certainly make traveling in day coaches more agreeable than it now is. You are undoubtedly familiar with the present custom of the porter to roughly sweep the coaches occasionally with a dry broom; it seems to be his particular ambition to get as much dust into the air as possible. I have happened to be in a smoking car several times when the atmosphere was almost choking because of the dust present. I think car sanitation is one of the most important subjects we have to deal with and that we pay altogether too little attention to it. The one thing I think of when I get into a berth is whether or not a spitting consumptive occupied it the night before and possibly expectorated on the curtains, or wiped his mouth with the blankets.

One physician reports that one morning on a train he spoke to a conductor about a passenger who was spitting upon the floor. The conductor said there were no rules against spitting on the car floors, but there should be. He further stated that he had known several men employed as car sweepers who became consumptives after three or four years of such work.

NO FEDERAL ACTION IN THE UNITED STATES.

Inquiry throughout the United States shows that there are no uniform regulations governing car sanitation. The federal government has done nothing to secure such needed regulations.

The Conference of State and Provincial Boards of Health, at its meeting in Washington in 1904, took action as follows:

> *Resolved*, That the Conference of State and Provincial Boards of Health endorse and recommend the following procedure for the cleansing of sleeping cars, coaches and other railway conveyances ordinarily used by the public as a safe and efficient method of prevention against communicable diseases:
>
> 1. That all carpets, upholstery, and cloth furnishings that can be removed, be thoroughly cleansed outside the car by means of compressed air.
> 2. That all cloth furnishings permanently fixed within the car be cleansed *in situ* by means of compressed air.
> 3. That floors, platforms, etc., after moistening, be thoroughly cleansed of dust and gross dirt by means of compressed air.

4. That all linen, after being used once, be thoroughly washed before being used a second time.

5. That blankets and non-washable fabrics be removed from the car and exposed to the action of sunlight for as long a period as possible.

6. That cuspidors and their contents be thoroughly sterilized by subjecting them to the action of steam under pressure.

7. That cars containing blankets, draperies, etc., exposed, be thoroughly fumigated with formaldehyde, using 500 c. c. to each 1,000 cubic feet of air space, for as long a period as possible.

8. That all cars be cleaned in the above manner as often as possible, at least once a week.

9. That distilled water, or water equally pure, be supplied for potable purposes.

THE KENTUCKY REGULATIONS.

Two States, Texas and Kentucky, have formulated regulations. Those of Kentucky are as follows:

1. All day coaches engaged in regular traffic shall be thoroughly cleansed after each trip at such points as facilities for same have been provided. In no case shall such cleansing be less frequently performed than on every third day of use. In such cleansing, all rugs, mattings and upholstered seats and back-rests, when practicable, shall be removed from the coach to the open air for mechanical cleansing and be exposed to sunlight when the prevailing meteorological conditions will permit.

2. All interior surfaces in coaches are to be mopped, scrubbed or cleansed at intervals of not more than ten days, with solutions of mercury bichloride, carbolic acid, tricresol or other disinfecting preparations preferred by any corporation and approved by this board as to ingredients and strength.

3. Spittoons are to be provided in numbers of not less than one for each seat in all smoking cars and toilet-rooms, and one at each end of all other day coaches, and in all waiting-rooms. Placards provided by this board shall be displayed at each end of all such coaches, and in all waiting-rooms, indicating the importance of using the spittoons, and it shall be unlawful for any person to spit upon the floor, or platform, of any railway car, or other public conveyance, or upon the floor of any waiting-room or platform in any station or depot.

4. All coaches of any kind in which an acute infectious disease has been carried shall remain closed and unoccupied after such person has been removed until it has been thoroughly cleansed and disinfected by the use of formaldehyde gas in quantities of not less than forty fluid ounces of formalin to each coach. All day coaches in regular use for through travel are to be disinfected after cleansing by some method approved by this board, at intervals of not more than ten days.

5. All toilet-rooms, water-closets, urinals, spittoons and toilet appliances are to be scrubbed with soap and hot water and disinfected with formalin or other approved disinfectant after each trip's use, and kept as clean as possible when on the road, and all similar rooms and appliances in stations shall be cleansed daily in the same way, and when vaults or surface receptacles are used in stations these shall be disinfected daily with fresh lime.

6. All preceding regulations in regard to cleanliness and disinfection shall apply equally to sleeping, dining, buffet and parlor cars used in the service of the public.

7. All blankets, curtain and hangings used in sleeping cars shall be exposed to superheated steam or other means of disinfection approved by this board, at intervals of not more than ten days, and all mattresses shall be so treated at intervals of not more than sixty days.

In speaking of the Kentucky regulations, Dr. McCormack, Secretary of the State Board of Health, says:

> We are promised the cordial co-operation of all lines operating in this State. The Pullman company has been slower than the other corporations in adopting our regulations. We look upon these regulations as the most important work our board has ever undertaken, and we are supported in our action by the newspapers and by strong public sentiment.

It is worthy of note that two railroads passing through Kentucky, the Chesapeake & Ohio and the Louisville & Nashville, have regulations in force similar to those of the Kentucky Board of Health.

I think it can safely be said that as a rule street railway companies are not giving sufficient attention to car cleaning or car ventilation. There is not the same excuse for this condition with these corporations that there is with the railway companies. The city sanitary officials have the street railway companies under their jurisdiction, and sanitary regulations should be in force and enforced.

LACK OF ENFORCEMENT OF RULES.

The railway officials must be given credit in many instances for trying to keep their coaches in good sanitary condition. Many companies have elaborate regulations governing car cleaning and ventilation, but these are not always enforced. For example: One company which has elaborate rules for cleaning has been reported upon to me three times as follows:

> 1. August 15, 1902.—The sleeping car,——— (owned by the railroad company) arrived at 7:00 A.M. and left at 6:45 P.M. of the same day. The bedding was not taken out, neither were the berths lowered nor the carpet removed from the car. The man in charge of this car told me that the blankets and pillows were taken out of this car and dusted about August 1, and that the carpet was taken up every eight days.
>
> 2. August 17, 1902.—The above sleeping car arrived about seven o'clock in the morning and left in the evening of the same day. This was the next trip after my first visit (August 15) to

> these yards of this car. I watched it from the time it arrived until it left. There was absolutely no cleaning of the car beyond the use of the feather duster and the broom.

The same inspector reporting further upon the yards of the company owning the sleepers referred to above, states that absolutely no attention was paid to the airing of bedding during my four visits to this yard.

Another company has some elaborate rules for car cleaning, but the conditions as shown at several inspections were quite similar to those given above. One special superintendent says:

> This road has given as much if not more attention to questions relating to car sanitation than almost any other road in this country. We happily enjoy conditions which permit of a state of cleanliness and correct sanitation that no other road enjoys. Our terminals are not far apart and we are thus enabled to give the cars the best possible attention after every trip.

This superintendent, after describing fully their method of car cleaning, states further:

> Relative to car ventilation, it is needless to say that I am thoroughly in accord with anything that will better the sanitary conditions of our railroad equipment. You, of course, understand that the systems of ventilation are being experimented with by many railroad companies and we are constantly on the lookout for improved ventilating devices which will meet the peculiar and difficult problems to which car ventilation is subject. My own opinion is that a careful drilling of the railroad trainmen in the matter of regulating the deck sash and other devices which may be in our cars for ventilating purposes is of the greatest importance, and I thoroughly believe that if trainmen can be brought to a knowledge of the principles involved in the proper use of the ventilating devices now in hand it will go a long way toward correcting bad conditions in car ventilation.

THE PENNSYLVANIA SYSTEM.

The Pennsylvania system seems to have given a great deal of attention to car sanition, and its methods of ventilation are among the best, if not the best, now in practical use. Its ventilating system furnishes 60,000 cubic feet of fresh air per car per hour, the equivalent of 1,000 cubic feet of air to each passenger seat. It is estimated that an ideal ventilation system should supply 3,000 cubic feet of fresh air per hour to each passenger, but it has not been considered practicable to attempt to secure this amount of fresh air with the ventilating system of the Pennsylvania road. A very complete report in this system of ventilation has been made by Dr. C. B. Dudley, chemist to the company.

Relative to car cleaning, the general manager of the system states:

> At every principal terminal, cleaning is constantly going on by gangs of women, who clean with soap and water. It is impossible to give a positive figure showing how often each car is cleaned, as the emergencies of the service interfere with regularity on this point, but the cleaning force is a part of the regular organization and is constantly at work. The cleaning of cars in transit, *i.e.*, when they are in the train and have passengers in them, is a subject which has been much discussed and, as the result of a good deal of study, it has been decided not to do any sweeping in transit for fear of raising dust. If, however, a car in transit is filthy owing to the spitting of some unclean passenger or to difficulties with children, such car when it reaches the end of any division is cleaned out with mops. At terminals the cars are dusted with damp cloths, and the sweeping, if this is the cleaning given, is done with a brush on the end of a long handle rather than with a broom.
>
> The company maintains a "relief department," which department has a staff of over sixty physicians, all of them regular graduates in medicine, who devote their whole time to the interests committed to their charge. The organization of this department is such that the railroad company has a direct financial interest in the health of its employés. It follows, therefore, that if serious sickness should occur there might result through this departmeut a considerable charge against earnings. To obviate, so far as possible, such possibilities, it is made a part of the duty of the relief department surgeous to make constant inspections and suggestions leading to the elimination of anything which may threaten the health of the employés, and as a large number of employés are engaged in the train service and in and about passenger stations, the result of these inspections are felt likewise by the passengers. Furthermore, meetings are not infrequently held by the relief department surgeons, at which papers are read, and discussions are held over sanitary problems. At the semiannual meetings of the operating officers of the road, sanitary questions are not infrequently brought forward and discussed and reports made on subjects which have been assigned. The tendency of this work is toward the betterment of the service, as far as the health of both employés and the public is concerned.
>
> In its chemical and bacteriological laboratories, this road is constantly examining samples from water supplies, with the idea of excluding from its cars any water which may be a means of causing disease. Furthermore, in order to learn whether the water in the cars put into the coolers at various points along the line is or is not objectionable, a number of analyses have been made of samples taken direct from the coolers of the trains in transit. This examination of water supplies and of water from the coolers has not yet been made a systematic part of the laboratory work, but the examinations thus far made indicate a less threatening state of affairs than might have been supposed.
>
> Although this road does not provide any specific

sanitary head, it is fair to state that the surgeons and laboratory workers are constantly studying sanitary problems, and that when questions arise throughout the system in which the public health is involved, such questions are referred either to the head of the relief department or to the department surgeons, chemist or bacteriologist. An attempt is made to keep in touch with the progress of knowledge on sanitary questions.

THE PULLMAN COMPANY.

All parties seem to agree that the greatest danger to the traveling public is to be found in the Pullman car. We would naturally expect to find this company fully alive to the sanitary responsibilities resting upon it, and yet it had no superintendent of sanitation until March 1, 1905. Under date of March 16, 1905, this newly-appointed superintendent of sanitation wrote me as follows:

> Having taken up the affairs of this office so recently, I have not yet been able to formulate any definite plans. I shall be for some time occupied in investigating the sanitary measures and appliances already in use, and later shall give my attention to improving them along such lines as may seem necessary for the proper preservation of the safety of the traveling public. We now have an arrangement under way for carrying out experiments in car sanitation under the direction of Dr. Rosenau, director of the Hygienic Laboratory of the United States Public Health and Marine Hospital Service at Washington. This comes about through a request from Dr. Rosenau for a car for this purpose. . . . The results of such work will no doubt be of value from the standpoint of the public health, and should aid materially in formulating definite plans for improvement. It is the desire of the management of this company to bring the sanitation of its cars up to a thoroughly efficient standard. My investigation so far has been very gratifying in that it has demonstrated a genuine effort to do this for some time past. Of course, you will realize the difficulties in the way of applying remedies to evils long in existence. It is easier to criticise than to apply an efficient and practical remedy. Ideal sanitary conditions exist in very few places, nor can ideal conditions be expected until the individuals comprising the public are willing to co-operate in making and maintaining them so.

Many of the railway officials in reply to my letter of inquiry relative to car sanitation, in speaking of the Pullman cars used on their lines, stated that they were cleaned under the rules and regulations of the Pullman Car Company, and that these rules and regulations were in the hands of its district superintendents. I wrote to the district superintendent at St. Paul twice for a copy of this company's rules and regulations. My first letter was referred by him to the company's new superintendent of sanitation. My second letter was not answered. However, an official of the ——— railway company sent me a copy of these Pullman rules so far as they related to the fumigation of cars. I have not been able to secure any rules or regulations governing the cleaning of Pullman cars, nor do the rules above referred to state the conditions demanding fumigation. They are worth quoting in full, as follows:

DIRECTIONS FOR USING LIQUID FORMALDEHYDE IN FUMIGATING PULLMAN CARS.—REVISED INSTRUCTIONS.

Close the outside doors of a car and all windows and deck sash, leaving open locker, drawing-room, buffet, heater, swing and toilet-room doors.

Lower all upper berths, loosen and disarrange the bedding, so as to expose as much of the surface thereof as possible. To accomplish this, remove the lower mattresses and place them over the backs of the seats between the sections; hang the blankets over the fronts of the upper berths, allowing them to hang down about twenty-four inches in front and hang the berth curtains by one hook at the end of the berth curtain-rod, the bottom of the curtain being so spread as to cover as much as possible the woodwork of the end of the seats; this will in a great measure protect the woodwork from being hit by the fluid. (The vapor of the formaldehyde will not affect the woodwork).

Remove the seat cushions, placing them on end on the floor between the seats; loosen the pillows in the pillow boxes.

Remove the covers from the spittoons, after same have been cleaned, placing the latter in the aisle of the car.

Hang up in the body of the car on the bell cord, four cotton sheets lengthwise, allowing the sheets to lap over each other some two inches.

Fill the formaldehyde sprinkler, which is furnished and which holds some twenty-two ounces of liquid, up to the glass ring near the top.

Sprinkle the sheets with the liquid by compressing the rubber bulb, taking care to see that none of the liquid gets on the woodwork. The person who uses this application should have with him a chamois skin, and if by chance a little of the fluid gets on the woodwork he should at once wipe it off, so that no harm can be done. But one sprinklerful should be used in fumigating a car and the sheets should not be saturated.

When using the sprinkler place the thumb over the top of the open tube in the top, make the same tight by slight pressure until the requisite amount has been used, then remove the thumb and the liquid will cease to flow from the sprinkler.

The formaldehyde will not injure any fabric or metal. It is not poisonous, and can be inhaled for a few minutes without any detriment whatever to a person.

It is not insecticide.

In fumigating a car it is well enough for the operative to cover his mouth and nostrils with a damp towel, in order to prevent the irritation which will take place.

It ought not to take over five minutes to thoroughly sprinkle the sheets above referred to, and when the work is done, the operative should leave the car and see that the outside door is closed after him.

The car should remain closed for four hours or more before it is opened, the longer the better, and after this time has expired, the outside door and all the windows should be opened and the car aired for some two hours or more before the bedding is put away.

A large number of cars can be fumigated in a day.

Chicago, October 15, 1898.

Cancel instructions issued September 10.

I made a second attempt to secure from the superintendent of the Pullman Company the rules and regulations governing the cleaning of Pullman cars—rules that had been in use before his appointment. He replied:

> The matter of regulations concerning cleaning and purification of cars is in process of revision. I prefer not to give instructions concerning these things until they are put into proper shape and have them transmitted to such employés of this company as will carry them out.

Evidently the doctor was not very favorably impressed with the regulations which he found in effect at the time of his appointment. It is worthy of note that the copy of the instructions relating to car fumigation quoted above which was sent me in March of 1905 is dated October 15, 1898.

The reason for the Pullman Company submitting a car to the United States Public Health and Marine Hospital Service for experimental work is probably explained by the following resolution presented in the House of Representatives March 2, 1905, by Mr. Hughes, of New Jersey:

> WHEREAS, Recent published reports of the boards of health of various cities and States concerning the ventilation of street and railway passenger cars have alleged that there is danger of the communication of contagious diseases by reason of the improper or imperfect ventilation of passenger cars. Therefore,
>
> *Resolved*, By the Senate and the House of Representatives of the United States of America in Congress assembled, that the sum of ten thousand dollars be, and hereby is, appropriated, the same to be made immediately available, to be expended under the direction of the surgeon-general of the Public Health and Marine Hospital Service of the United States, for the purpose of investigating the possibility of the communication of diseases in street cars and railroad passenger cars through the improper or imperfect ventilation thereof, and of the possible infection of meats and fruits and other perishable food products through the imperfect or improper ventilation of freight cars engaged in transporting the same, to the end that if, in his opinion, it is thought advisable, he shall recommend legislation for the regulation of the ventilation of railroad passenger and freight cars engaged in inter-State commerce.

CAR SANITATION.

In preparing this paper I have sought information from many different individuals. For reasons that are self-evident I appealed to those connected with railroad work. Opinions came to me from more than a hundred different sources. None of these opinions were against the possibility of tubercular infection during transportation in public conveyances. Some, of course, argued against the *probability* of such infection, basing their argument largely on the fact that exposures at most in public conveyances were for but short periods. In considering the possible danger of infection from public conveyances the fact must be kept in mind that conditions in cars are not the same as in the rooms or houses. The moving car is in a state of constant vibration and consequently the amount of dust or of germs in the air will be greater at all times under such conditions than in a room.

All of the opinions given me were to the effect that the greatest danger of infection is to be found in the sleeping car.

Car sanitation embraces car cleaning and car ventilation. Car cleaning is a simple problem, for it is one of dollars and cents. Of course there are times and conditions when a car may temporarily be in an unavoidably foul condition. This applies especially to street cars during certain seasons of the year. Such conditions are excusable, but they do not justify general negligence of cleanliness.

Car ventilation is a difficult problem, for the temperature and the motion of the car, as well as the creation of disagreeable draughts, have to be taken into consideration. It is estimated that for good ventilation in a closed space 3,000 cubic feet are required per hour for each individual. The ordinary passenger coach and sleeping car furnishes from one-tenth to one-sixth as much fresh air per hour as is required according to the above estimate. From a sanitary point of view, the effects of foul air as a means of causing disease must not be overestimated. The fact must be recognized, however, that a person in a badly ventilated car is more susceptible to tubercular infection than he would be in a well ventilated car.

STREET CAR COMPANIES.

The great offenders in car ventilation are the street car companies. While the railroad companies are trying to find some exception to see a street car equipped with anything but the so-called deck ventilators. It is a safe statement, I think, that deck ventilators never will furnish proper ventilation in any car. This is especially true of the overcrowded street car.

Dr. C. B. Dudley, chemist to the Pennsylvania Railway System, in his paper on "Passenger Car Ventilation," says:

> A car is said so be well ventilated when a person coming into the space from the outside fresh air detects none of the odor characteristic of a badly ventilated space.

Such a condition rarely exists in any street car in a cold climate during the winter season. It is not an uncommon thing to hear street car officials attempt to throw the responsibility for the bad ventilation of their cars upon the public, the position being taken that the people object to the cold air coming in through the ventilators. It is not the people, but the ventilators, that are at fault in these cases. Of course people will not tolerate strong draughts of cold air upon their heads. The ventilators should be so constructed as to supply fresh air without the creation of annoying draughts.

Faulty ventilation is not entirely due to faulty ventilators. One of the railway authorities already quoted in this paper says:

> My own opinion is that a careful drilling of trainmen in the matter of regulating the ventilation through deck sash or other devices is of the greatest importance, and if trainmen can be brought to recognize this fact, it will go a long way toward correcting bad conditions in car ventilation.

This fact is one that street car companies especially should keep in mind. Their cars make short runs and are constantly under the supervision of inspectors. These inspectors should note whether the conductors are obeying the regulations of the company as to ventilation at the same time that they are checking up their honesty in money matters. My own experience is that companies' regulations often exist only on paper. As an illustration. On a pleasant spring day, not too cool, I entered a car occupied by but a few passengers. This was about noon-time. The air was foul and every ventilator was closed. A change of conductors was made at the point where I became a passenger. The retiring conductor was responsible for the condition of the car as I found it. I decided to note what the new conductor would do and so said nothing at the time. After traveling in this car an hour, as I dismounted at the end of my journey, I asked the conductor if there were no company regulations relative to car ventilation. He replied in the affirmative. I then drew his attention to the fact that every ventilator in his car had been closed during the entire run. He then became rude and abusive in his language and told me he did not have to open ventilators unless requested so to do by passengers. A short time ago a woman living in my home city on entering a car noted that the air was very close and foul, every ventilator being closed tightly. She asked the conductor to open one or more ventilators. He made no reply, but stared at her in an impudent sort of way and did nothing. She then asked a gentleman sitting near if he would open one of the ventilars and he did so. The day was pleasant, but slightly cool—a spring day. There was no fire in the car. It is possible that the conductor thought it necessary to keep his car closed tightly in order that it might be comfortably heated with the animal heat from the passengers. Whether he was acting on instructions or on his own authority in keeping his car closed, I do not know. Certain it was that for the sake of warmth the course that he pursued was not necessary, nor was it wise from a sanitary point of view. I presume many of you have had similar experiences. The manager of the company employing the two conductors referred to says:

> The matter of proper ventilation is perhaps the most troublesome feature of street railway operation, the air very often becoming foul simply because certain of the passengers object to having it otherwise. In any event they are not willing to have a sufficient number of ventilators open for such length of time as may be necessary to change the atmosphere. Because of this fact our employés are instructed that when within two or three blocks of terminals, and when the car is generally empty, the front and rear doors are to be opened, allowing the

air to go through while the car is in motion. Our standard cars are equipped with four deck ventilators on each side, two near the front and two near the rear.

In spite of the above statement, it was very seldom that a conductor opened the front and rear doors of cars near the end of the run over which I have traveled almost daily for some time. There was a time when the commissioner of health in one of the two cities served by this line did insist on this order being enforced in the city which he represented, but when this commissioner's vigilance waned, the vigilance of the conductors waned also.

One State sanitarian says:

> On the whole I think it must be admitted that there is danger of possible tubercular infection while one is traveling in public conveyances, but that this danger can and should be avoided.

After a careful consideration of the facts presented in this paper I think we must all admit there is a real, but unnecessary danger of infection with tuberculosis during transportation in many of the cars operated by city railway companies, by railroad companies, and by the Pullman Car Company.

A WORKING PROGRAMME FOR ASSOCIATIONS FOR THE PREVENTION OF TUBERCULOSIS—NATIONAL, STATE AND LOCAL.*

BY EDWARD T. DEVINE,
NEW YORK, N. Y.,
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It is one hundred and one years since Sidney Smith, the caustic reviewer and indefatigable reformer, astonished the members and supporters of the British Society for the Suppression of Vice by an article in the *Edinburg Review* attacking the fundamental principle upon which that and all similar societies are based, turning their axioms ruthlessly upside down and inside out; convicting them of sectarianism, hypocrisy, tyranny, arrogance and injustice; administering much wholesome reproof and admonition, and concluding by the assurance that if they would attend to "these rough doctrines, they will ever find in this journal their warmest admirers and their most sincere advocates and friends."

There is one initial difference between the society which Sidney Smith satirized and that which we are founding. The suppression of vice meant, of course, or appeared to mean, the prosecution of the vicious. The suppression of tuberculosis means, not persecution, but help for the individual consumptive. The machinery of the law must be invoked in our case as in theirs, but it is the law in its most benignant aspect, with stern compulsion in the background always, but in the foreground the kindly physician, the uniform of the nurse, the educational leaflet, the persuasive talk, and for those who are not ill, freedom ftom preventable infection.

The ultimate responsibility for the control of epidemics, as for the cure and prevention of disease in general, lies with the medical profession. To our medical brethren this may appear a hard saying, and, as I shall show, it requires qualification. It is nevertheless the large truth and the controlling truth to which all other considerations are subsidiary. Just as it is the duty of the business man to do business, and not to cheat; just as it is the duty of the philanthropist to do good, and not to pauperize; so it is the duty of the physician to cure disease in the individual and not to permit epidemics. It is indeed conceivable that a physician may refuse to recognize any social obligation, and that his vision may be limited by the terms of the contract between himself and his individual patient, just as the philanthropist may insist upon dabbling in a particular form of distress which appeals to his sympathies, and refuse to consider the relatively greater needs at his side, or even the possibly injurious social effect of his actions. But the medical practitioner of this type is false to the lofty traditions of his own profession, which may well challenge comparison with other callings as to the measure in which it meets its social obligations.

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* Read before the Sociological Section of the National Association for the Study and Prevention of Tuberculosis, Washington, D. C., May 18–19, 1905.

CENTERING RESPONSIBILITY ON THE MEDICAL PROFESSION.

The problem then for laymen, for legislators and public officials, for the public press and other instruments for the moulding of public opinion, in relation to the scourge of tuberculosis, as in relation to any other great epidemic, may be defined to be the centering of complete responsibility upon the medical profession. This, however, cannot be done merely by logical demonstration as to what their duty is, by hypercritical fault-finding as to the manner in which it is being discharged, or by eloquent exhortation to physicians to attend to the matter. Responsibility can be devolved upon the medical profession only by meeting the conditions which authoritative medical opinion prescribes as essential.

For example, when it has been shown that hospitals and sanatoria are necessary, it is no more the duty of physicians than of others to secure their establishment. Physicians must do their part, according to their abilities, like other citizens; but the only way in which the complete responsibility for procuring results can be placed squarely upon the shoulders of the medical profession as such, is for the State, the municipality, or private philanthropy to provide the hospitals and the sanatoria which authoritative medical opinion has declared to be indispensable. Again, when appropriations for sanitary inspection, for the enforcement of anti-spitting ordinances, or for special investigations are demanded, upon reasonable and conservative grounds, it is only by making the appropriations and paying the taxes which they necessitate that the community transfers to the medical profession responsibility for results. It is clearly the duty of representative medical men not to demand the impossible, but to subject to rigid professional criticism the actions of officials or experts who are using such appropriations, and to see that expenditures are made in such a manner as to ensure maximum results.

THE SUGGESTION OF A POSITIVE PROGRAMME.

So far as the movement for the prevention of tuberculosis is concerned, there is little difficulty in formulating a positive programme. It has at least ten features:

1. The maximum of sunlight and fresh air for all mankind—at work, at leisure, and at sleep, and if there be any other occupation than these three, then while engaged in those other occupations as well.

2. An abundance of simple and yet sufficiently varied and nourishing food, especially—to put it concretely—of pure milk and fresh eggs.

3. Early diagnosis of every case of pulmonary tuberculosis by the family physician, and the utmost attempt to secure compliance with his advice as to medical treatment and diet, change of work or complete release from regular employment, change of residence, or removal to sanatorium or hospital—such advice naturally taking into account all the circumstances of the individual patient.

4. Registration of all cases, whether in tenements or palaces, whether in city or country—not to be followed by any unnecessary interference by health board inspectors or nurses, if there is a physician in charge, or by any other invasion of privacy or other personal hardship—but enabling the duly constituted health authorities to know their problem and to deal with it on the basis of complete knowledge. I am aware that in many communities this is a counsel of perfection, but it is a part of our programme.

5. The establishment of hospitals, or hospital wards, or houses of rest, or whatever other institution will best serve the purpose for advanced cases, with two primary objects in view: to make such patients more comfortable in their last months, and to diminish the centers of active infection.

6. The establishment on a generous scale of State, municipal and private sanatoria for the treatment of patients in the earlier stages, cases promising either cure or at least arrest of the disease and radical improvement of general health—no expense being spared so far as essentials are concerned, no extravagance being tolerated in non-essentials.

7. Publicity as to the means of preventing infection, and as to the other elementary rules of hygiene, through every known channel of public instruction; newspapers, schools, the lecture platform, leaflets in all necessary languages, appropriate

special periodicals, and instructive visits from physicians, nurses, or competent lay visitors.

8. Conference for interchange of views and experiences among those who in any way, however humble, are working at the common task and associations for educational and preventive work.

9. Relief in various forms, but especially in the form of special diet for those who can and must be treated at home, rather than in sanatoria, and who are without sufficient income to provide for the necessaries of life—which in some cases include the prescribed diet essential to life and recovery.

10. And finally, further research. Even here, where I am a rank outsider, I must round out my statement of our general programme. We need more knowledge, better authenticated records, further comparison of results, ever more and more accurate knowledge—and for these we must have laboratories, endowments and favorable conditions for scientific research, travel for observation and study abroad, and training for fruitful investigation.

In these ten tasks each society, each committee—nay, each individual who joins us may take a direct personal interest, and to any or all of them he may directly or indirectly contribute. It is not for any learned academy to say that the next discovery may not be made by the unknown student, or the local practitioner. It is not for the most powerful health board to be sure that some unknown health officer in a remote rural community may not hit upon the best working plan for securing co-operation of patient and citizen. The best leaflet for popular propaganda may be written in the office of the national association, or it may be hammered out in the brain of a busy inspector pushing up one dark stairway after another, or it may come to light in the long drive of a country doctor, who has time to think between calls. And when it is written, whether by one who approaches the subject from a medical standpoint or by one who writes from the social and educational point of view, it is equally the property of all the rest. The law of copyright is superseded in this field, as the patent law gives way in the medical profession to the higher code.

Fortunately, there is no single procedure for an anti-tuberculosis campaign in any community. If the actual history of the movement in the cities and towns represented in this meeting were studied, they would be found to offer many very interesting and striking contrasts. The only general principle is to build on local foundations, and to incorporate all that is good and that is applicable in the experience of similar movements elsewhere. For example, if there is an active local medical society, which is accustomed to take an effective part in social movements, let the beginning be made there, attracting to itself such additional forces as are available in the community. If there is the right kind of health board, or health officer, let that be the starting point. On the other hand, a woman's club, or a health protective association, or a civic league, or a charity organization society, or any similar philanthropic body may be more free to take the initiative—always in such case, however, in co-operation with appropriate public authorities. The responsibility will fall back usually in any event in each community upon some one man or woman who has the inspiration, who feels the responsibility, upon whose shoulders the burden is laid.

THE RECRUITING OF THE MOVEMENT.

My remaining suggestions may be understood to be addressed directly to this chosen person, called from on high to undertake this service, called by a personal experience, or by a sense of official responsibility, or only by a fatal capacity for seeing a little earlier and a little more clearly than others see.

To such public official or private citizen then, I would suggest first of all the careful reading of some pamphlet or book in which the general idea is fully set forth. Dr. Knopf's prize essay on "Tuberculosis as a Disease of the Masses, and How to Combat It;" Dr. Flick's book on "Consumption, Preventable and Curable;" Dr. Hillier's "Tuberculosis: Its Nature, Prevention and Treatment;" or the papers in the "Handbook on the Prevention of Tuberculosis," especially—if I may name three without disparagement to the others—Miss Brandt's "Social Aspects of Tuberculosis;" Dr. Biggs's "Tuberculosis: Its Causation and Prevention;" and Dr. Prudden's "Tuberculosis and Its Prevention"—any of the books or papers named, or any one of a half dozen others which might be added will suffice to give the key-note of a preliminary campaign or skirmish. In some respects better for our purpose than any of these, especially for one who is already trained to analyze, compare and interpret for himself, is the "Directory of Institutions and Societies Dealing with Tuberculosis in the United States and Canada," in which little volume the bare facts in regard to all such agencies are set forth.

Get early into relations with the National Association for the Study and Prevention of Tuberculosis, and secure a number of copies of some one suitable paper for distribution among those who might naturally be expected to become interested in a definite movement. Supply an editor or special writer for the local press with material from which an article or a series of articles may be prepared for publication in the local newspapers. Unless it is a very exceptional community, that has probably already been done, but it may be done again to renew the public interest in the subject. Find out if possible whether tuberculosis is in fact especially prevalent in the community and thus give added point to the suggestion for local organization. When the ground has thus been prepared, arrange for a public address by some one who speaks effectively with recognized authority on the subject. There are probably such speakers in every State, but if it seems likely to be more appreciated do not hesitate to invite some eminent physician from a distance, such as are to be found in the board of directors of this association, and in the numerous local associations already in existence. Either in advance of such address or at the time of its delivery, proceed to organize a special committee of some existing body, or a new association for this particular purpose, whose objects and general methods will be suggested by those already in the field, although its scope should not be too narrowly restricted.

When the movement has thus been officially inaugurated, with both physicians and laymen, both women and men in its membership and active in its work, there should be no delay in making a thorough study at first hand of the local prevalence of the disease—whether it is increasing or diminishing, whether there are unfavorable housing or industrial conditions responsible in any degree for its existence, whether there are appropriate laws and local ordinances, and whether they are being enforced, whether there are adequate hospital and sanatorium and dispensary facilities, whether the particular occupations of the people of the community are in any special degree responsible for a high death-rate from this disease, and if so whether it is because of their essential character, or because of accidental features which might readily be modified. In the Havana cigar factories, for example, the operatives were seated on both sides of narrow tables, thus facing each other, and those who coughed almost necessarily discharged the sputum directly into the face of their fellow-workers on the opposite side. It required only a little additional floor space to face them all the same way, and the removal of an unnecessary board ceiling nearly doubled the cubic air space of the factory.

It will be necessary to know all the facts before setting on foot remedial measures. Study should precede action, but it is a poor substitute for it. On the basis of sure knowledge, gained in part from fresh and independent investigation, and in part from the accumulated experience and observations of physicians and earlier reformers, get to work. You will need new laws, new appropriations, new methods, and sometimes new officials. You will need an educated and aroused public opinion, and you will need the widest diffusion of elementary information. You will need the co-operation and active support of the medical profession; of the teaching profession from university and professional school to the kindergarten; of the journalists, the business community, the religious and charitable fraternity, and of every other individual—whether grouped into classes or not—who is indignant at unmerited and needless suffering, and who is willing to lend a hand in a world-wide humanitarian movement—a movement which already enlists the enthusiasm of a larger number than all who marched in the crusades of old, which already commands greater capital than would provide a modern navy for a first-class power, which has already won a hearing at the awakened conscience of mankind, and which is nevertheless, as yet, in its feeble beginnings, with comparatively few lives lengthened, comparatively little pain mitigated, comparatively few families saved from unnecessary dependence. Those who are taking up the initial responsibility for these local movements should personally in some way connect themselves with the larger plans, and thus keep alive their interest in all the varied aspects of the movement. The local auxiliaries of Stony Wold Sanatorium, and the affiliation of the local Young Men's Christian Associations with the Health Farm at Denver, are especially commendable for the opportunity which they give to private individuals widely separated from each other to feel that they are engaged in a common cause.

By following the progress of the moment in all parts of the world as recorded in the pages of *Charities*, or *Out-Door Life*, or some of the medical journals, or the daily press, by direct personal correspondence with those who are at work elsewhere, by becoming a member of the National Association and by attendance upon its meetings, one binds himself to the goodly fellowship which is engaged in what often seems to me the most honest and useful piece of work now going on in the world.

SPECIFIC TASKS.

The specific measures for which a local association or committee for the prevention of tuberculosis should work, naturally vary with the size and the character of the community in which it is to operate. It is safe to suggest to all the desirability of securing the services of an executive secretary who need not, but sometimes may advantageously, be a physician, an office open at convenient hours for callers, and as much of a constitution or by-laws as will insure regular meetings of a governing body, and the fixing of responsibility for work to be done.

If there is no special hospital for consumptives, or separate ward in a general hospital, that will frequently be a good objective point of attack. In this connection the pamphlet published by the New York Committee on the prevention of tuberculosis, entitled "County and City Care of Consumptives," showing various methods of safe and economical housing will be suggestive. If there are many who are not receiving suitable medical oversight, and who are likely not to consent to removal to a hospital, it may be expedient to establish a special dispensary with both medical and nursing service or, if dispensaries already abound, to organize in existing dispensaries classes for pulmonary tuberculosis, for the double purpose of removing these patients from the general waiting rooms when they are occupied by other patients, and securing for the consumptives the advantage of closer specialization and more appropriate treatment.

There is as yet no city of considerable size in the United States in which there is even an approach to adequate hospital and dispensary facilities for consumptives. In these two tasks alone, therefore, there is ample opportunity for useful service for all the associations which are likely to be formed in the near future. Washington, the national capital, until one year ago had no hospital, sanatorium, or dispensary for consumptives, although the Home for Incurables with its limited resources did not refuse to receive advanced cases of pulmonary tuberculosis. It is not impossible that there may be some relation between this lack and the fact that the city of Washington in 1900 had a death-rate higher than that of any other city except New Orleans, and a death-rate from tuberculosis higher than that of any other city except New Orleans and San Francisco. The pavilion at the Asylum Hospital opened last year accommodates thirty-four patients, which is about one out of seventy-five of the total number of consumptives in the city. Baltimore with 135 hospital beds for consumptives, Boston with 250, Chicago with 400, St. Louis with 100, and New York with 1,000 have but begun to provide for the need.

Next to the creation of hospital and dispensary facilities, possibly of even earlier urgency, is the necessity of educating the rank and file of the medical profession as to the necessity for early diagnosis, registration, and protection from infection by all conservative and far as one eminent physician has gone in declaring that on a subject like this it is infinitely easier to secure the co-operation of the tenement-house population, than to win that of the doctors. I hold that to be an unduly pessimistic view, though it was based on sad experience. Without going so far, it may still be permitted courteously to point out that if the specialists and the pioneers are right, the practice of a very large number of family physicians is wrong

—wrong, that is to say, in not making sure from the first manifestation of the disease in any member of the family that rigorous prophylactic measures are taken to insure immunity for the others, and wrong in the failure to join heartily in securing the adoption of energetic educational and preventive measures.

And next after these two great undertakings, comes the yet greater, and it may be we should say even more elementary undertaking, to which repeated reference has already been made—the creation of a sound public opinion, midway between indifference and phthisiophobia, an enlightened public opinion in which every one is frightened just enough to act sensibly, and not enough to act foolishly; just enough to insure necessary public appropriations and private donations, but not enough to make it difficult for a cured and educated consumptive to find a job; just enough to cause the railways to disinfect the hangings of a sleeping car and and the cushions of a day coach, but not enough to cause them to refuse to an indigent consumptive girl, on her way to a sanatorium, the charitable reduction which is given to other indigent persons; just enough to cause the city to build a sanatorium, but not enough to induce the legislature to permit local prejudice to close county after county to the urgently needed sanatorium, except on a bribe to the county commissioners, and the township trustees. When this happy golden mean of public opinion is to be found in every community, the death-rate from tuberculosis will diminish with a rapidity which will enable us to contemplate the speedy dissolution of our association for the prevention of this disease, and will release for the next big task the energy and the financial resources which for the present are imperatively demanded for this above all others.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, JUNE 10, 1905.

WHAT IS CINCINNATI DOING IN THE WARFARE AGAINST TUBERCULOSIS?

In almost every community in the civilized world a greater or less effort is being made to dispute the issue with the "Captain of the men of Death"—the great white plague. Organizations are being effected everywhere, and when the appalling fact that one-third of all persons dying between the ages of fifteen and forty-five succumb to tuberculosis, a communicable and preventable disease, our previous Oriental indifference to the supposed decrees of Providence vanishes.

What are we doing and what more shall we do? Many things are necessary. First, the profession must recognize it is not their exclusive fight, and that success can only follow the coöperation of the intelligent public and the municipal departments dealing with the public health. Up to the present time the latter, embraced in the hospital and Board of Health, have rendered the only effective service. This not only speaks well for the medical men who have charge of these services, but reflects credit upon the municipal authorities who make the work possible by providing the necessary funds.

Cincinnati has the enviable honor of having established the first municipal institution for the exclusive care of consumptives in the United States. For a number of years the Health Office has made sputum examinations gratuitously. Recently it has endeavored to assist physicians further by the appointment of a physician to make physical examinations of patients sent with a written request of the family physician. The fumigation of the rooms occupied by a tuberculous individual is done after his death or removal. The rules also require physicians to notify the department when they are in attendance upon a case of consumption. Circulars intended for the instruction of patient and his family are also furnished. An effort has also been made recently to enforce the anti-spitting ordinance.

The Health Department has no power to condemn infected houses or premises unfit for human habitation, and which are frequently hot-beds of tuberculous infection. Nor has it the power to forcibly remove consumptives from improper homes where they receive no care and are a menace to others. It is hoped these powers may be granted later.

Recently an organization has been effected as a branch of the Associated Charities work which bids fair to achieve important results in the contest with tuberculosis, under the guidance of Dr. Byron Stanton. It is known as the Anti-Tuberculosis Committee of the Associated Charities. It has recently issued a circular which defines its present purposes. Its essentials are presented below:

"We wish to call your attention to a matter that is of vital importance to you as a citizen of Cincinnati desirous of its welfare.

"Are you aware that the annual number of deaths from consumption in this city for the past ten years has been more than 800? That the majority of those dying from the disease are persons in the prime of life who succumb at a time when their usefulness should be the greatest?

"Let us give you a few statistics gathered from the records of the Health Office for the years 1894 to 1903 inclusive.

Total number of deaths from all causes	58,634
Total number of deaths from consumptive diseases	8,058

Ratio—13.74 per cent.

"Deaths due to consumption at the extremes of life are comparatively few, as is shown by the fact that under fifteen and over fifty years of age less than 5 per cent. of the deaths are due to consumption, while between fifteen and fifty years the percentage is 32. That means that about one-third of all the deaths that occur during the period of greatest business and industrial activity, when the growing families of the patients most need attention and care, are due to consumption.

"It is estimated that each life is worth to the State $1,500. The duration of the disease is as a rule several years. During the last year the individual ceases to be a producer and begins to expend his savings for medical attention, medicines, food and nursing. The loss annually in our city may therefore be computed as follows:

806 lives lost at $1,500 each	$1,209,000
Expense of caring for patients, less of wages, etc.	800,000
Total	$2,009,000

"This does not include the expense of caring for those who recover from the disease.

"Unfortunately, the loss does not end here, for the surviving parent is often unable to provide for the family without charitable assistance, and the family becomes a burden upon the community. The statistics of our orphan asylums show that from 25 to 60 per cent. of the children in such institutions become public charges because of the death of one or both parents from tuberculosis.

"Consumption is a contagious disease, due to a germ that is easily destroyed, and the disease is only present because of our indifference to well-established hygienic and sanitary rules.

"Two methods of attack are being employed. One is to endeavor to diminish the number of consumptive people by curing them in sanatoria or at their homes.

"The other is to prevent altogether the infection, and thereby the establishment of the disease.

"The latter method is, of course, the more important, and should be most sedulously pursued.

"A campaign of education is necessary in order that the public may become familiar with the facts concerning the disease, and willingly coöperate with the health authorities and various organizations and individuals in the effort to rid our community of the scourge.

"Those infected with the disease should be immediately reported to the health authorities in order that proper methods of preventing the infection of the remainder of the patient's family may be inaugurated.

"Hospital treatment should be provided for those who are indigent.

"Those who must be cared for in their own homes should be provided with medicines and with the proper kind and quantity of food. Milk and eggs are specially important.

"It is the desire also to provide those who are treated in their own homes with the services of visiting nurses who will advise them regarding the prevention of the spread of the infection, the ventilation of the rooms, and the preparation of foods.

"To help in carrying out these purposes your personal and financial support is earnestly solicited. In order that the committee may enter at once upon its work it is hoped that the responses will be prompt and generous.

"Subscriptions should be made payable to William H. Alms, Treasurer."

The New York Charities is doing a work that is not only having an influence for enormous results at home, but the organization is reaching out and attempting to include the entire country in the scope of its beneficence. Cincinnati should do likewise. We have as able men, who are competent to bring this work to a successful issue, as any city in the country, and who may be almost classed as specialists in the philanthropic field. I cannot refrain from mentioning Mr. Max Senior, whose earnest efforts have already rendered such valuable results in securing the establishment of a State Sanatorium, as an example. This is an opportunity to work for the welfare of the city. Send your application to Dr. Stanton and depend upon him giving you something to do.

B. F. L.

DR. TRUDEAU.

The pioneer of the sanatorium treatment of pulmonary tuberculosis in this country is Dr. Edward L. Trudeau. When he rapped with his gavel to announce the opening of the first session of the National Association for the Study and Prevention of Tuberculosis, he was accorded an ovation seldom, if ever, seen in a medical assembly. Every individual in the hall rose, and with cheers, waving of handkerchiefs and clapping of hands the vast assembly attested its appreciation for the personal qualities as well as the scientific attaiments of its chairman. A like demonstration followed the eulogy of Dr. Osler, his last public utterance in this country.

Dr. Osler spoke with his hand on Dr. Trudeau's shoulder, and said:

"I cannot sit down without bearing testimony to the work of one man in this country in connection with this disease. His work has been an inspiration to us all, and it has been characterized by courage under circumstances that few of you could bring to bear and yet overcome. It has been characterized by abundant enthusiasm of a true scientific nature. I do not know that there is one thing in his career that impresses me more than that he could have kept alive the fires of enthusiasm the way he has. He has had that intimate care of his patient which has characterized him above all other things, and, lastly, he has had the true humility of a great man."

Dr. Trudeau was born in New York, October 5, 1848, educated at Columbia College, received a degree of M.D. at the College of Physicians and Surgeons in 1871. He was compelled to go to the Adirondacks in 1874 because of ill health. He has resided at Saranac Lake since. In 1884 he founded the Adirondock Cottage Sanatorium for the treatment of incipient pulmonary tuberculosis. This was the first institution of the kind in America to attempt to cure this disease by climatic and open-air methods. The methods are practically the same as at foreign sanatoria. In 1894 he founded the Saranac Laboratory for the Study of Tuberculosis, the first laboratory for this purpose in America. The results of his sanatorium and laboratory labors have exerted a worldwide beneficial influence. His labors have always been of the greatest importance.

His experiments to determine the artificial immunity of animals to tuberculosis and his demonstration that animals inoculated with tuberculosis resisted the disease for a much longer time, and even recovered when allowed to run in the open air, whereas, animals similarly inoculated and confined succumbed, are among his important works. Long may he live to benefit his fellow man and receive his gratitude!

B. F. L.

CLINICAL NOMENCLATURE.

One of the most annoying and incomprehensible conditions with which the reading portion of the profession has had to contend has been the faulty means of indicating pathological conditions in the tuberculous lung. The old method of calling the stage of infiltration the first, the process characterized by softening of the infiltrated area the second, and of cavity formation the third stage, was simple and readily comprehended. From a pathological standpoint this might still be accepted, but even then it would only indicate the extreme progress of possibly only a minute portion of the tuberculous process.

The importance of an approaching army cannot be judged without a survey of all its constituent elements; neither can the severity of the tuberculous process be judged unless we know how much of the lung is infiltrated only, how much has begun to break down, and how much of the tissue has already been expelled. From a prognostic standpoint a small area in the second or third stages might not have the serious significance of a more extensive area involved to only the first degree. How to group conditions so as to indicate a uniform significance has been a problem that has been given a large amount of study during the past few years. At the meeting of the Association for the Study and Prevention of Tuberculosis the following scheme was recommended by the Committee on Clinical Nomenclature, and finally adopted by the society as the best that could be devised at present. It is based to a large extent upon the scheme of Turban, which is now employed universally in England, Germany and France. All physicians are urged by the society to adopt it as a working basis for recording cases:

1. Extent of disease in the lungs. For exact definition see below (I, II, III).
2. How long consumptive? Three months period to date from the observation of the first clinical symptoms, *e.g.*, subborn coughing, hemoptysis, pleurisy, loss of flesh, etc.
3. General condition of the patient. A, favorable; X, unfavorable.
4. Digestion. B, unimpaired; Y, impaired.
5. Pulse. The pulse is to be registered every morning aud evening, the patient resting.
6. Temperature. F, maxima for the day over 101° F.; f, maxima for the day from 99° F. to 101° F.; t n, normal temperature (mouth).
7. Tubercle bacilli. T, tubercle bacilli present; O, tubercle bacilli absent.
8. Tuberculous complications. Name of the organ suffering from tuberculosis.
9. Other complications. Name of the disease.
10. Result of treatment. *Vide* classification of results of treatment proposed by Committee on Nomenclature.

Definition of the Extent of Disease in Lungs, According to Turban—

I. Slight lesion extending at most to the volume of one lobe or two half-lobes.

II. Slight lesion extending further than I, but at most to the volume of two lobes; or severe lesion extending at most to the volume of one lobe.

III. All lesions which in extent of the parts affected exceed II.

By "slight lesion" we understand disseminated centres of disease which manifest themselves physically by slight dullness, by harsh, feeble, or broncho-vesicular breathing, and by râles.

By "severe lesion" we mean cases of consolidation and excavation such as betray themselves by marked dullness, by tympanitic sounds, by very feeble broncho-vesicular, bronchial, or amphoric breathing, by râles of various kinds.

Purely pleuritic dullness, unless marked, is to be left out of account; if it is serious the pleurisy must be specially mentioned under the head of "tuberculous complications."

The volume of a single lobe is always regarded as equivalent to the volume of two half lobes, etc.

Proposed Classification of Cases and Result of Treatment in Pulmonary Tuberculosis, to be Used in Connection with Turban's Scheme—

Progressive: (Unimproved.) All essential symptoms and signs unabated or increased.

Improved: Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration with bacilli usually present.

Arrested: Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least *two* months.[1]

Apparently Cured: All constitutional symptoms and expectoration with bacilli absent for a period of *three* months; the physical signs to be those of a healed lesion.

Cured: All constitutional symptoms and expectoration with bacilli absent for a period of two years under ordinary conditions of life.

The following is evidently intended as a guide in indicating the prognostic significance of the conditions present:

Incipient (Favorable): Slight initial lesion in the form of infiltration limited to the apex or a small part of one lobe; no tuberculous complications; slight or no constitutional symptoms (particularly including gastric or intestinal disturbances or rapid loss of weight); slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest; expectoration usually small in amount or absent; tubercle bacilli may be present or absent.

Moderately Advanced: No marked impairment of function either local or constitutional; localized consolidation moderate in extent with little or no evidence of destruction of tissue, or disseminated fibroid deposits; no serious complications.

Far Advanced: Marked impairment of function, local and constitutional; localized consolidation intense; or disseminated areas of softening; or serious complications.

Acute Miliary Tuberculosis.

B. F. L.

GENERAL AND THERAPEUTIC NOTES.

Never rely upon drugs to do more than assist in making your patient more comfortable. When he has an harassing cough he needs a remedy; if he suffers from a severe pleurisy something must be given. We have no specifics. Nevertheless, 85 per cent. of cases can be cured in sanatoria if they apply early. Work that can be done in a sanatorium can be equaled by proper treatment in every locality. If you are not obtaining like results it is because you do not make the diagnosis early or do not give sufficient attention to the patient.

The essential remedies are sunlight, pure air and proper food. They must be administered constantly.

Anemia can be benefited by a tonic containing iron, quinine and strychnia. It is well to keep the patient on this for some time.

The cough is due to the inflammatory condition of the respiratory passages. Many consumptives escape this complication, and consequently never cough. On this account the absence of cough should not be regarded as an indication that tuberculosis is not present.

The only derivatives of opium that should be used to quiet the cough are codeia and heroin. They do not render the patient stupid, and do not cause constipation. As the cough is frequently nervous in character bromide of sodium often renders adequate service.

Often the cough arises from a passive congestion of the respiratory organs.

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[1] The length of time mentioned is, of course, somewhat arbitrary, but is intended to cover the cases which frequently occur, where the patients leave a sanatorium for various reasons, contrary to advice, after a stay of a few weeks, although all active symptoms may have ceased completely soon after entrance.

When this is the case a glass of hot milk, hot bouillon or broth does valuable service, through the stimulating effect on the heart or by relieving exhaustion.

The dry, irritating cough of a congested pharynx is often relieved by supping a mixture of a teaspoonful of creosote in a tumbler of milk. The ordinary menthol-camphor spray is also valuable in the same condition.

Spurs on the nasal septum or hypertrophied turbinate bodies should be attended to, as the mouth-breather is handicapped in his effort to overcome the disease.

Hemoptysis is, fortunately, an early symptom in the disease, and thus warns the patient and physician that a serious condition is present. This symptom seldom requires treatment. Few persons ever expectorate more than two ounces. Remedies intended to act on the pulmonary blood-vessels are useless, as they are more like veins than systemic arteries. Because of this fact we can only produce our results indirectly.

The effort to constrict the caliber of the pulmonary vessels by means of ergot is useless, as it has no direct effect upon them. On the other hand, by lessening the capacity of the systemic vessels it causes more blood to remain in the lesser circulation. Its stimulating effect on the heart is also bad.

The fact that ergot has been used so long in pulmonary hemorrhage without appreciable bad effect simply indicates how little influence even pernicious drugs may have.

In attempting to check a hemorrhage from the lungs we should adopt nature's methods and try to produce syncope, because when a condition of prostration is present the heart's action is slow and feeble and the blood extravasated is given an opportunity to coagulate. Nitrite of amyl will cause this condition immediately. If this is accompanied by a large dose of morphia hypodermically the effect will be continued. Severe hemorrhages that result in death occur so suddenly and the flow is so copious that everything is over in less than two minutes. It is rare that the hemorrhage will lead to a pneumonia and produce death.

Dyspnea frequently precedes the hemorrhage for a couple of days. Dyspnea is not a pronounced symptom in consumption, and when marked should cause a further search for valvular disease or aneurismal dilatation. This has reference to the patient at rest. Dyspnea is always present to some extent on exertion, depending upon the extent of lung involvement and the condition of the heart musculature. Strychnia and digitalis are indicated. The latter is very apt to derange digestion.

Pain in the chest is usually due to pleurisy. It is almost invariably of the dry form. Aspiration is almost invariably negative. Hence, the pain, which is increased by a deep inhalation. Slight pain is frequently benefited by a counter-irritant like tincture capsicum or tincture iodine. A capsicum and belladonna plaster is also efficacious. If the pain is severe constrict the chest with adhesive strips. Apply either one or two so as to constrict the chest at the seat of the pain; or, if the trouble is more general, incase the entire side, or even the chest, with the plasters. This prevents the movements of the ribs and causes the respiration to become almost exclusively diaphragmatic. Instead of plaster, broad pieces of tape sewed together except near the ends and tightened on the chest by means of buckles constrict the chest satisfactorily. Rest in bed is necessary when the pain is severe to diminish respiratory movements.

Fever should be combated by constant rest in bed. No patient should be permitted to go about who has a temperature above 100°. Antipyretics may occasionally be used, but as a rule are not indicated.

Diarrhea is a frequent complication. Only infrequently is it due to ulcerative conditions. Frequently a diarrhea has been of months' standing, but at the postmortem only a congested condition of the bowel will be noticed. Sometimes there is a lardaceous degeneration. Diarrheas of apparently interminable character will often end after many months under proper dietetic treatment. Bismuth, astringents and opiates apparently have no effect. Epsom salts should not be forgotten when one is confronted by a case of this kind.

When the patient is placed under proper hygienic and sanitary conditions indigestion is not as marked a complication as may be supposed. Except when the temperature is high no difficulty is experienced if the patient indulges freely in a properly selected and well-cooked meal.

It is said the citadel of the lungs is the stomach; this should be remembered when the patient craves indigestible articles.

Do not derange the patient's stomach with cod-liver oil. It is only a nauseous fat that is easy to digest. In this respect it has little or no advantage over butter and well-fried bacon. Preparations that are said to have the oil removed and only the specific elements that are in combination with the oil retained depend upon the psychological influence of suggestion for their beneficial effects.

Alcohol is another pernicious agent. It creates a congested condition of the stomach, interferes with appetite and digestion. It must be immediately oxidized, with the the result of interfering with the ordinary metabolic processes. It also, by being partially eliminated through the respiratory tract, causes an irritation of the mucous membranes and an increase of the cough. All of the beneficial influences it is supposed to have can be secured from strychnia.

A consumptive should never be permitted to use tobacco. It weakens an already degenerated heart and increases the cough by irritating the upper air passages.

Night sweats indicate the patient is living under improper sanitary conditions. When the patient breathes pure air it is an unusual complication except when the individual is moribund. They are never harmful, but when the patient clamors for relief, because of this inconvenience, agaricin in one-tenth to one fifth grain doses will usually prove efficacious.

Never treat complications in the throat and larynx by means of lactic acid and other severe applications. A mild sedative is all that is necessary, introduced on cotton or by means of the intra-tracheal syringe.

If the patient's general condition improves local difficulties will also ameliorate.

Creosote is of no use therapeutically. Any influence it may have is due to its action as an antifermentative on the stomach contents. In large doses it may do harm by irritating the kidneys.

Do not wait until bacilli are in the sputum before deciding your patient has tuberculosis, as you may lose your opportunity to cure him. Make your diagnosis when the respiratory sounds indicate occlusion of the air vesicles and a swelling of the mucous membrane of the smaller tubes. Do not wait for moist râles.

Do not forget the value of the thermometer in making a diagnosis. A large percentage of the thermometers sold are not accurate. This is true also of the high-priced ones.

If you use tuberculin as a diagnostic test be sure it is good. Several physicians have found the products of some laboratories useless.

The only certain method of destroying germs in the sputum is to burn it. A solution of carbolic acid, formaldehyde and corrosive sublimate will do it if the germs are brought in contact with the drug. Air being in the sputum, it floats above the destructive element and is but slightly, if at all, affected.

Remember tuberculosis is a communicable disease, and join in the crusade for its extermination. B. F. L.

EDITORIAL NOTES.

Miami Valley Medical Society.—The fifty-fifth annual meeting was held in the Presbyterian Church, Loveland, O., Tuesday, June 6, 1905. The programme was as follows.

MORNING SESSION, 10 O'CLOCK.

Called to order by Dr. B. H. Blair, Retiring President.
Reading of Minutes.
Inaugural Address—President-elect, Dr. N. B. Van Winkle, Blanchester.
Dr. Herschel Fisher, Lebanon: Rupture of the Iris.
Dr. Robert Carothers, Cincinnati: Modern Treatment of Fractures.
Case Reports.
Volunteer Papers.
Appointment of Commitiees.
A good country dinner at the Waldo Hotel.

AFTERNOON SESSION—1:30 O'CLOCK.

Admission of New Members.
Treasurer's Report.
Payment of Dues.
Election of Officers.
Business.
Dr. G. S. Van Horn, Batavia: Rupture of the Heart.
Dr. G. A. Fackler, Cincinnati: Cerebro-Spinal Meningitis.
Dr. H. J. Whitacre, Cincinnati: The Modern Treatment of Joints.
Volunteer Papers.
Case Reports.

OFFICERS.

Dr. B. H. Blair, President, Lebanon.
Dr. W. E. Leever, Vice-President, Owensville.

Dr. Con W. Gatch, Secretary, Milford.
Dr. A. C. Roberts, Treasurer, Morrow.
Dr. Wm. Scott, Committee on Arrangements, Loveland.

CENSORS.

Dr. L. Mounts, Morrow; Dr. F. Lamb, Glendale; Dr. R. T. Trimble, New Vienna.

Dr. George F. Butler has been appointed Professor of Medicine by the Board of Directors of the Chicago Post-Graduate Medical School.

At the next meeting of the Academy of Medicine of Cincinnati, Monday evening, June 12, at 8:15, Dr. Earl Harlan will read a paper on "Nephroptosis."

Report of the Bureau of Infectious and Contagious Diseases for the week ending June 2, 1905:

Disease.	Cases.	Deaths.
Measles	2	0
Diphtheria	7	0
Scarlet Fever	16	2
Typhoid Fever	18	5
Phthisis Pulmonalis	20	13
Pertussis	8	1
Smallpox	6	0
Cerebro-spinal Meningitis	0	1

Correspondence.

NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS.

Cincinnati, May 23, 1905.

Editor Lancet-Clinic:

The first meeting of the National Association for the Study and Prevention of Tuberculosis was held in Washington, May 18 and 19. This is the first meeting in this country of members of the profession practically interested in the subject. Almost every locality of importance from the Atlantic to the Pacific and from the lakes to the gulf was represented, and even our Canadian neighbors added to the interest of the meeting by their presence and valuable papers.

The Association was organized last June, at Atlantic City. Dr. Trudeau was selected President and Dr. Osler and Dr. Biggs Vice-Presidents. In addition a directorate of thirty members was chosen. The United Charities Association, of New York, also added its extremely valuable assistance, and assumed all of the detail work so necessary for the success of such a movement. The programme arranged for the meeting by the directors was admirable, and every preparation for the meeting complete.

Dr. M. P. Ravenel, of Philadelphia, the Chairman of the Pathological and Bacteriological Sections, had prepared for inspection a large number of valuable and instructive specimens bearing on the disputed subject of the transmissibility of the various types of the tubercle bacillus. From the Bureau of Animal Industry the following were among the specimens sent: Liver and mesentery from a monkey inoculated subcutaneously with bovine bacilli; lungs and liver from a monkey fed with bacilli from a cow's milk; lung of sheep inoculated intravenously with human tubercle bacilli; lung of calf inoculated with tubercle culture from a child (the liver of the same animal was also shown); lungs of monkey inoculated subcutaneously with bovine bacilli; spleen of same; tuberculosis of lung of sheep produced from a boy's intestine; the tuberculous lung of a beaver was also shown which had been captured in Canada but three weeks before its death and the lungs of a Philippine deer and those of a roe deer which had been in captivity seven and fifteen months respectively.

We were indebted to Dr. Mohler for these specimens.

From Philadelphia Dr. White sent the following: Cavity formation in lung of cow resulting from feeding ground tuberculous tissue from a cow, no infection of intestinal tract; lungs and intestines from monkey, inoculation from culture of human bacilli by feeding, extensive lung disease, intestines free; omentum and spleen inoculated with human bacilli after passage through another calf; miliary tuberculosis of lung of horse resulting from intravenous inoculation with tubercle bacilli of human type; tuberculous ulceration of tonsils and lungs of pig fed with pure cultures of human tuberculosis, intestines free from disease.

An enormous tuberculous mass was also shown in the udder of a cow and the liver of a calf with pre-natal infection.

The lungs of a rabbit were also shown which had been inoculated subcutaneously with the culture from the mesenteric gland of a child, and also a mass composed of the tuberculous mesentery and intestines of a child from which virulent bacilli had been obtained and had caused the death of a calf in twenty four days.

From the Saranac Laboratory Dr. Lawson Brown exhibited the various cultures of the tubercle bacilli and specimens of the products of their culture and analysis.

The meeting opened with addresses of the President and Vice-Presidents, of which the following are extracts:

ADDRESS OF DR. EDWARD L. TRUDEAU.

This, the first regular meeting of the association, marks an epoch in the history of the struggle against tuberculosis in America. The great white plague has been so gigantic and hopeless a problem that until recent years men have accepted the holocaust of human life which it has ever claimed and the terrible suffering it entails on humanity as an inevitable decree of fate, and have either looked on with Oriental fatalism or turned their heads and passed by on the other side with a hopelessness born of despair and ignorance of the etiology of the disease.

For many years the pathologists labored faithfully but unsuccessfully to solve the problem, but only by the application of the experimental method and with the birth of the new science of bacteriology men have been inspired with new hope and led to the conviction that, since tuberculosis is a communicable disease, it is also to a great extent a preventable one. The realization of this truth has resulted in the accumulation of evidence as to the practical efficiency of preventive measures, and in improved methods of diagnosis and treatment. It has demonstrated the possibility of a much earlier detection of the disease and its curability when treated by the open-air method. This association is now a part of the vast international movement which has been steadily spreading over the world. It should combine and direct the scattered efforts of individual workers and existing associations, and extend and expand the field of these efforts.

One of the first steps to be initiated is the adoption of a plan of organization that would bring each State by means of one or more representatives, lay and professional, in touch with the national association.

Education should begin by the teaching in the public schools of the main facts relating to the transmission of tuberculosis, insisting in such teachings on the value of hygienic measures of prevention, and dwelling as little as possible on the details of the bacteriology of the disease, which would tend to produce in imaginative young minds exaggerated and fantastic impressions of the dangers of infection; education of the masses by a distribution of considerable literature, by lectures to trades unions and various organized bodies by a free museum, tuberculosis exhibitions, and through the medium of the public press and periodical literature. Education by teaching just where the danger lies and the simple measures necessary to avoid it, will tend to quiet and control the unreasoning and ignorant terror of infection which often works such hardship and injustice to the consumptive.

Early detection of the disease is the first requisite for success in its treatment, and it is through education alone that incipient cases will be induced to seek advice early and to make at the right time the sacrifices necessary to bring about their recovery.

Education will help to crush the vampire of quackery, which preys ever on the misfortune and ignorance of the poor consumptive, appealing with devilish ingenuity, through spacious advertisements of mysterious specifics and sure cures, to his credulity and hope, masquerading under the guise of science and even of philanthropy in order to wring from him his small savings.

Another great responsibility before this association is the extension and advancement of the study of tuberculosis in this country. The United States, at any rate so far as tuberculosis is concerned, should not much longer justly lie under the imputation of being "one of the largest borrowers in the scientific markets of the world."

On the spirit of a work like this depends the life and success of this association. The motive which has brought you together and the spirit which has made possible its existence is, to my mind, the best guarantee of its success; for its work represents the highest type of unselfish human endeavor and the highest aim of a noble profession; namely, the struggle for the existence of others—a struggle which will not be rewarded even by the gratitude of those whose lives you will save, for they will never know that they have been saved. It has been said that "the degree of civilization of a people will in time be indicated by the figures of its death rate." If this be so, the National Association has indeed a great responsibility, and one which it seems well fitted to assume.

ADDRESS OF DR. WILLIAM OSLER—HIS LAST PUBLIC UTTERANCE IN AMERICA.

Our chairman has touched upon one very important point in this great movement, namely, education. There are two aspects to the educational problem. First, there is the getting of knowledge, which is not a very difficult thing to do. In fact, the question is whether, under certain circumstances, we have not a little too much knowledge. We perhaps are sometimes embarrassed by the knowledge we have, as the knowledge we have to day of the subject of tuberculosis is really enormous. The knowledge we have acquired of this subject in the last century is one of the most remarkable of human achievements. The second point is a very different thing, which is, making it effective. The getting of knowledge and the getting of wisdom are totally separate. Never was a truer word said than that by Tennyson: "Knowledge comes but wisdom lingers."

There are three classes to educate: First, the public; second, the profession, and third, the patient. The public is weak. It is practically sitting on the edge of the bed, but it is not yet dressed. Still, it is a great improvement to get the public this far. When this much is certain the rest is pretty sure to follow. The public has three great duties in this problem, and the first is the enactment of good laws. It is nice to be able to say, New York laws. In spite of its frivolity and its size—and its other things, to which I hesitate to allude—New York has set the pace for the other cities. The second duty is the proper care of the early tuberculosis case. Whether it is done by the public or by private munificence does not make any difference. It is the second part of the public duty. The third public duty is the care of the hopeless case. The care of the early cases are not for the public quite so important as the hopeless cases, as the cases in the latter stages are those from which the disease is most often spread.

The education of the profession is just as difficult as the education of the public. In fact, we are members and a part of the public. We have their advantages to a marked degree and their failings in a minor intensity. The early recognition is the first and most important duty, but it is by no means easy, and we are not yet fully educated up to the point of dealing with it. Open confession is good for the soul, and we might just as well confess it. The profession does not always recognize the early cases. The second important point is the recognition by the profession particularly of the efficiency of the open air treatment, which is not always recognized by the profession. The third important point is the education of the medical students in this question, and especially of diagnosis. It is an increasingly difficult thing to deal in medical schools with the whole question of infectious diseases. If you offer to build a hospital for infectious diseases in the heart of a city, the very people most interested—the public—are the very ones who will rise up and say, "Away with it; it is a damage to our community and to our property." It is very difficult, therefore, to properly educate the medical students, as the general hospitals will not take tuberculosis patients. The general hospital should always take a small group of acute cases of tuberculosis, including miliary tuberculosis. The second important point is for the general hospital, especially for the sake of the medical students, to take in several cases of early tuberculosis, just to show the students, doctors and nurses what can be done in early cases. We often get excellent results with these cases, and the advantage is not only to the physician, but the medical student, and, most important of all, is a lesson to the nurses. It is a very difficult problem for the general hospital in this connection. The second important function of a general hospital is a tuberculosis dispensary.

Every large general hospital should have in connection with its dispensary a tuberculosis department. This can be very easily established and the advantages are enormous. The educational advantages to the student are very great, and it has the great advantage of being a place where physicians can send their cases for early diagnosis, where they can be better dealt with than they could in connection with a board of health. The educational aspects should be borne in mind, and tuberculosis cases should be encouraged to come. The nurses should be encouraged to look after them, and in this way it would be beneficial to the patient and helpful to the hospital and all connected with it. Lastly, the education of the patient, and here comes a most trying and difficult task. In the first place you have the friends who will say, "Don't tell that girl she has tuberculosis. It will kill her. She will die." How often do we hear that? There is not a greater mistake than to keep from a patient knowledge that she has early tuberculosis, as it is only by having that knowledge that she may be expected to recover. We are criminal participants with the friends if we refuse to tell the patient the exact nature of her trouble.

I think these are the most important points in connection with the question of education and tuberculosis—the education of the public, the profession and the patient. We are all deeply interested in these problems, and no one of them is of more interest to us than the other. The national association should stimulate and support work along these lines, as it will do the public good and the profession good. I hope that the good work already begun so favorably may continue. I cannot sit down without bearing testimony to the work of one man in this country in connection with this disease. His work has been an inspiration to us all, and it has been characterized by courage under circumstances that few of you could bring to bear and yet overcome. It has been characterized by abundant enthusiasm of a true scientific nature. I do not know that there is one thing in his career that impresses me more than that he could have kept alive the fires of enthusiasm the way he has. He has had that intimate care of his patient which has characterized him above all other things, and, lastly, he has had the true humility of a great man.

Dr. Biggs, when introduced, announced that he would speak on the technical side of the subject. He referred to the difficulty of obtaining hospitals for infectious diseases and mentioned the tuberculosis hospitals in New York within a short distance of the scarlet and typhoid fever hospitals, at which between seventy and eighty absolute cures had been made within the last year and not any infections had been received from the patients at the other hospitals. "People are getting out injunctions because of the decrease in the value of property near these hospitals," he said, "but this shows such a total want of conception of the real dangers to public health that we should have a public protest against their action." In regard to the regulations pertaining to the disease, he said that many cities made no systematic effort to enforce them, and that in that regard New York stood in the lead. He said that regulations should be laid down in different cities under the jurisdiction of the most eminent men in the profession in those cities. He also stated that practically enforced registration existed only in New York and two cities in Great Britain. It did no good to pass regulations unless they were enforced. For the proper recognition of their value it is necessary to educate the profession as well as the public. Enthusiastic efforts to cause the adoption of the measure may at first cause a partial failure; more reliance should be placed upon constant and unremitting pressure.

In the enforcement of the provision the Board of Health received the sincere support of the authorities. During the first year when the notification of consumption was only requested there were but 4,000 reported. After these years it became compulsory and was required, as with all infectious diseases. This at first aroused considerable opposition, but at the present time is of no consequence. Last year over 20,000 cases were reported. These were not all new cases, as several thousand were duplicates. This year 7,000 were reported during the first four months. Registration does not involve publicity.

The department communicates with the physician in charge and asks him to have the patient observe the necessary precautions. When the patient passes from his care he is required to notify the department, and likewise if the patient has changed his residence, in order that the premises he occupied may be properly disinfected.

Mr. Talcott Williams, of the Philadelphia *Post*, delivered the evening address. His subject was "The Responsibility of the Layman in the Prevention of Tuberculosis." Mr. Williams was thoroughly posted upon his subject, and evidenced the fact that in Philadelphia, at least, intelligent coöperation will be accorded any efforts toward the annihilation of tuberculosis by the press. He told of the necessity of a perpetual remonstrance on the part of the public against the presence of dust in any public conveyance and in the preparation of foods. At the close he said:

> Grave danger exists that in our anxiety over a disease we shall pauperize a family in seeking to save an individual. What should be done in our cities is by the combination of hospitals to create a central bureau for the examination of all cases of free relief, and employ the aid of friends and family before trenching on charitable resources never large enough for the real needs of society. A specific organization of aid to consumptives is needed at this point to avoid pauperizing an entire social stratum by making chronic illness an open passport to relief. Only for a season will this be neceesary. Individual cases call for individual aid. At the early initial period $100 will bridge the chasm from disease to recovery. This fact needs to sink into the public conscience. Not a person or a family among the well-to-do but sees some case in those employed that can be saved if air, leisure and food are provided. In Germany 70 per cent. of the early cases are cured.

Prof. Wm. H. Welsh opened the Pathological and Bacteriological Section with an address on the "Channels of Infection in Tuberculosis." He stated in part:

> While we have a large body of accurate knowledge regarding tuberculosis many points remain unsettled. This is largely due to the lack of determination of the exact time and place of the infection. Examination after death rarely enables us to say how the bacilli got into the system. The main points of interest in the examination are for the pathologist and do not bear upon prevention.
>
> Naegeli in his statistics on the subject shows, in regard to the frequency of tuberculosis, that practically every one in adult life has been infected with the tubercle bacillus. These statistics, I think, relate to a general class of patients in hospitals, and from the factory districts of Germany, and are not so definite as to justify a wide generalization. There is consideral doubt whether healed foci found after death may be interpreted as being caused by the tubercle bacillus. We cannot say that it is everywhere present; it is chiefly in neighborhoods proximate to patients. The idea that we cannot walk down the street without incurring the danger of the disease is ridiculous. Nor should it be inferred that those who have healed lesions have more resistance than those who have developed consumption, because we may explain the difference by the fact that in the case of healed lesions only a few bacilli have been inhaled, whereas to produce pulmonary tuberculosis it is essential that there should be prolonged and repeated infection. Long exposure is required, and therefore, the public precautions are sometimes overestimated.
>
> In regard to the question of the relative importance of infection from human beings and from cattle, I have reached the general conclusion that the chief source of danger is from human beings. Though infection from cattle, through milk particularly, is not to be neglected, it is of minor importance.
>
> There are various ways in which bacilli are conveyed through human beings, namely, through dust, droplets from the mouth, direct contact, and food. Behring has a theory that infection through infants and young children is responsible for nearly all cases of pulmonary consumption. I cannot accept the doctrine in just the form in which he proposes it, but that tuberculosis is more frequent in children than generally supposed I do believe. Between 40 and 50 per cent. of children have tuberculosis in

some form or another, as shown by autopsies in some regions. They gain it principally by creeping on the floor, coming into contact with the dust, and often transmit it to their parents. Often, too, they gain it from the parents by contact or by heredity from the mother.

The question of the frequency of the entrance of the germ through the respiratory and digestive tracts has been discussed.

It was formerly held that inhalation into the lungs caused the disease, but recent investigation has shown the frequency of the entrance of the bacilli through the digestive tract. While infection is through the intestines to a large extent, I think that the most potent cause of consumption is by inhalation of the germ into the lungs.

In conclusion I will say that the usually-adopted measures of prevention of tuberculosis rest upon a sound scientific foundation—I mean measures for guarding against the spread of tuberculosis through sputum and of increasing the resistance of the people by improving their social environment.

Dr. Arthur J. Richer, of Montreal, spoke very favorably of the therapeutic value of Marmorek's anti-tubercular serum in nine cases in which he had employed it. In several cases the improvement was noticeable within forty-eight hours. He gives 10 c.c. in the course of the first ten days. After the lapse of a few days he begins again with doses of 2 c.c., and, if necessary, gives this dose at frequent intervals for several months.

Kinghorn found difficulty in the serum diagnosis of tuberculous, because of the compact masses which the bacilli form. This difficulty he obviates to some degree by the cultivation of bacilli first on potato and afterward on beef broth with 5 per cent. glycerine. Agglutination can be produced by the blood of inoculated animals. Kinghorn regards the test as of equal value to Koch's tuberculin. In Germany it is still regarded as of questionable value by many. It, unfortunately, sometimes reacts to the sera of healthy persons, and at times the serum of a person with tuberculosis does not cause the reaction. If the dilution is one to five the individual is tuberculous. If he reacts to a dilution of one to ten there is no doubt. Results depend upon the culture. Koch finds by the use of emulsions of dead bacilli his results are more uniform. A one-fifth dilution is positive in five hours to the naked eye.

Dr. Longcope exhibited two specimens of tuberculosis of the thoracic duct. He stated that in seventeen of twenty-five cases in which this lesion had been found tuberculosis was general and ran a rapid course. In twelve of the seventeen the lesions were very extensive. In one case only were the bacilli found in the lymph without any lesion being found in the tissues of the duct. The involvement varied from that of a single tubercle to a multiplicity that gave a seeded appearance. It is only in the extremely acute cases that the bacilli can be discovered in the lymph without the duct being involved.

A very good working scheme for the recording of cases of consumption was presented by a committee appointed by the directors. It will be found in the editorial columns. While no scheme of nomenclature and division can be given universal support it was thought that this one was at least sufficiently good to recommend to the profession for universal adoption.

Dr. Greene presented a paper on tuberculosis in its relations to life insurance. He stated the companies lose five times as much on these risks as they receive. One company last year lost $800,000 on 6 000 persons dying from this disease. One-half of these paid only for five years. The life insurance companies were invited to send representatives to the meeting next year; in the meantime they were requested to consider the question of establishing sanatoria for their policy-holders, it being the experience of companies in Germany that it is better to save the lives of their patrons with incipient tuberculosis than to let them die and pay the premiums.

Dr. Halsted, of Baltimore, read a paper in which the marked beneficial effects of the out door treatment were shown in surgical tuberculosis. Sinuses that had been discharging for years improved or entirely healed in a few months. Wan and puny children who never seemed to progress soon began to fill out and gain color. The patients are kept out in the air, no matter how severe the weather, and if sufficiently clothed never complain of the cold.

The rôle of climate in the management of tuberculosis was a committee report. It took considerable effort to produce a sufficiently common ground for all to agree upon, and when the report was made our highland confrères were given a severe shock. Practical experience has taught the profession during the past few years that tuberculosis is curable under proper hygienic and sanitary conditions at any place in the country. The fact also that Denver and Los Angeles have the highest death-rates in the United States demonstrates that something more than climate is necessary for a cure. The recommendation for the form for an educational leaflet for distribution was postponed until next year. One presented by the committee was admirable, but the members felt several should be submitted suited to the different classes to whom they would be given.

A committee, of which Dr. Klebs, of Chicago, was chairman, presented a report on early diagnosis. The futility of waiting too long for the presence of the bacilli was dwelt upon, as many tuberculous do not expectorate the bacilli until late in the disease. The value of the thermometer was emphasized, as well as a rapid pulse with weakness and lassitude. With slight changes in the percussion and breath sounds physicians must become familiar before we can approach the problem of the cure of tuberculosis with confidence. Warning was also given not to place too much attention to the absence of cough. Hemoptysis should always be regarded with suspicion if no valvular disease or syphilis is present.

The Sociological Section was presided over by Mr. Homer Folks, of New York. He delivered an address on "Tuberculosis from the Layman's Point of View." He proposed that men of wealth and cities contribute funds to the carrying out of the purposes of the association as a permanent investment for public health.

Several participated in the discussion that followed, and most of them favored a plan of getting money to carry on the practical needs of the crusade against tuberculosis.

Mr. Edward T. Devine, of New York, read a paper on "A Working Programme for Associations for the Prevention of Tuberculosis: National, State and Local." He proposed a maximum of sunlight and fresh air for all mankind; an abundance of simple and yet sufficiently varied and nourishing food; an early diagnosis of every case of pulmonary tuberculosis by the family physician; registration of all cases, whether in tenements or palaces; the establishment of hospitals and other institutions to make the patients more comfortable in their last months and to diminish the centers of active infection; the establishment on a generous scale of private, municipal and State sanatoriæ; publicity as to the means of preventing infection; conferences for interchange of views; relief in the form of special diet, and, finally, further research.

One of the points of interest brought out in the sanatorium discussion in the Sociological Section was that every effort so far made to establish self-supporting communities or settlements of tuberculosis patients had proved a failure. Nevertheless, partial support had been accomplished under carefully directed industries in the open air. It was the general opinion that all cases of tuberculosis should be allowed to remain at large where proper care of the patient was maintained and proper sanitary requirements observed to protect members of the family in which the patient resided. Nowhere, except in New York, is there legal authority to compel the retention of a patient against his will. Such authority, it was argued, was most desirable.

Speaking of the lax enforcement of sanitary regulations by municipalities, Dr. J. P. C. Foster, of New Haven, said he arrived at the Boston station one night at 12 o'clock. On all of the station walls he observed large signs stating that $100 was the fine for expectorating on the floor. On the floor were enough evidences of the violation of this law to support, with the collected penalty, a State institution. His conclusion was that either such laws should not be enacted or that they should be enforced.

At the afternoon session of the Sociological Section Mr. Homer Folks presided, and papers were read by Mr. William H. Baldwin, of Washington, on the "Progress of the Sanatorium Movement in America," and by Dr. H. M. Bracken, of St. Paul, on "Infection in Transportation." (The latter is published in another place.)

Dr. Hermann M. Biggs was chosen President for the next year.

The meeting of the Association ended with a subscription banquet given in honor of Dr. Trudeau. Because of illness the doctor could not remain. Dr. Welch acted as toastmaster. There were many addresses, all of a congratulatory character, on the successful work of the Association and appreciative of the achievements of Dr. Trudeau.

Sincerely yours, B. F. LYLE.

The Lancet-Clinic

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THYROIDECTOMY IN THE TREATMENT OF EXOPHTHALMIC GOITRE.*

With Report of Cases.

BY JOSEPH RANSOHOFF, M.D., F.R.C.S.,
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The origin and character of exophthalmic goitre are subjects of speculation today as much as when the names of Graves and Basedow were fixed to the triad of symptoms which characterizes the disease. Neuro-pathologists have done little or nothing to further our knowledge of it. That the disease occasionally follows severe psychic shock, that it occurs in women forty-six times as often as in men and during their earlier menstrual life, that lesions of doubtful import have occasionally been described in the medulla, and, above all, that the territory of the cervical sympathetic is the theatre of its greatest activity, are the facts supporting the view that exophthalmic goitre is a neurosis. The one other view possible is that, whether in a primary or secondary way, the enlarged thyroid gland, changed in its finer anatomy and in its function, is responsible for the entire category of symptoms. For the study of the disease, perhaps, it is unfortunate that its course is, as a rule, so very prolonged, and that except in the acute cases, if death come, it is through intercurrent affections, such as severe hemorrhages, diarrhea or cardial insufficiency. Autopsy reports have thus far, for this reason, been of very little or no value. In contradistinction hereto are the facts which make for the thyroid gland as the chief seat of the trouble, whether it be, as is doubtful, the *fons et origo mali*, or, what seems more likely, that the functional perversions induced in it by the enlargement are responsible for symptoms, ocular, cardiac and general. The ordinary goitre may be associated with a moderate tachycardia, dyspnea and occasional vertigo, but one never sees the severe tachycardia associated with exophthalmos, tremor of the body, tongue and laryngeal muscles, with cold, clammy perspiration and flashes of fever, as one sees them in Graves' disease. The differential diagnosis between the true Basedow's disease and the symptoms not infrequently implanted on an ordinary goitre that looks like Graves' disease is never very difficult. A number of very important data speak for the importance of the enlargement of the thyroid gland as the paramount factor in the etiology of exophthalmic goitre.

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* Read before the Ohio State Medical Association, at Columbus, May, 1905.

1. Although the enlargement of the gland is rarely excessive, it is always marked. Whereas, in a very small proportion of cases the goitre is not discovered until the tachycardia and the tremor have been present for some time, there is no proof that a slight enlargement was not present from the very beginning.

2. In the symptom-complex of exophthalmic goitre we have a picture that is the antithesis of myxedema, resulting from complete removal of thyroid gland. Again, the symptoms of the disease are closely simulated by thyroid feeding. In every case of exophthalmic goitre, which we have seen subjected to thyroid feeding, the symptoms have always been very much aggravated. Since Moebius promulgated his views regarding hyper-thyroidization, it is all but certain that in Basedow's disease the changed gland structures are responsible for throwing into the circulation an excessive secretion, the toxic effects of which on the sympathetic system is evidenced by ocular, cardiac and vasomotor symptoms.

3. The enlargement of the thyroid gland of exophthalmic goitre has certain characteristics which do not belong to the ordinary struma. It rarely is of large size, it is almost always, at least in the beginning, soft and uniformly effects both lobes, and its chief characteristic is the great development of the arteries of the gland. The great vascularity of the exophthalmic goitre shows itself clinically frequently by pulsation or murmurs, and in most marked cases even by a thrill. The abnormal vascularity is subject to changes from time to time, and it is noteworthy that with the diminution of the blood supply to the gland the general symptoms lose in severity. The gland structure itself is far from normal. In its place there has been found a diffuse hyperplastic change of the cellular elements, with a disappearance of the normal colloid substance, which is replaced by a thin, stringy, coagulating secretion. It must be conceded, however, that these microscopic changes are far from constant. The enlargement and increased number of the finer arteries has already been mentioned.

Limiting the output of the thyroid secretion by removing a part of the gland, or reducing its blood supply, controls the clinical picture of exophthalmic goitre. In no other way than this can there be explained the remarkable results which have followed partial thyroidectomy or the cutting off of the blood supply by tying off the arteries. The effort made to explain the successes achieved as a form of mental suggestion therapy is futile, for in almost every case the symptoms are aggravated (in two of my cases to an alarming degree) immediately after the operation. Amelioration of the symptoms then ensues, and the improvement, often leading to a positve cure, continues. It is true that the operative results have thus far not been uniform, either in point of improvement or durability. This is easily accounted for by the variability of the amount of thyroid tissue removed by resection or rendered functionless by arterial ligation. The dread of removing too much thyroid tissue and, thereby reducing the very antithesis of the condition the operation is intended to relieve, is probably accountable for the partial successes and the recurrences which have in an undetermined proportion of cases been observed. In quite a number of them second operations have relieved the symptoms entirely and permanently. Indeed, in the surgical treatment of exophthalmic goitre some operators (Kocher) prefer repeated operations to one extensive and severe excision. Kocher, for example, often begins with the ligation of the arteries, which he follows up with a partial thyroidectomy. But there are few surgeons who can control their patients as does the famous specialist of Berne. I am satisfied if I can gain consent for one operation. Kocher has secured 75 per cent. of recoveries from his method in fifty-nine cases. Three years ago Schultz subjected twenty cases operated on in the Eppendorf Hospital to a critical examination as to the durability of the relief. Fourteen of the cases were very severe. In eighteen cases the relief was perfect. In eleven cases the final examination was made at least five years after the operation. In one case the cure had continued after eleven years. Two of the six cases to be submitted continue well after four years; one after nearly eleven years.

The excellent results achieved by operation in exophthalmic goitre would seem to make every case one for operative interference. This would be true were it not for two facts: (1) That many cases are greatly benefited by internal medication and perhaps by radiography; and (2) that thyroidectomy for Graves' disease presents a mortality variously estimated between 6 and 13 per cent.—therefore one that is vastly greater than that attending the ordinary goitre operation. This increased mortality is due to the very grave condition of many of the cases at the time of the operation, and the greater loss of blood during the operation because of the greater vascularity. The technique of thyroidectomy for Graves' disease is foreign to the object of this paper. It may be stated, in brief, that in my goitre operations I have strictly followed the technique of Kocher, including cocaine anesthesia, the curvilinear or collar incision, complete closure of the wound except for small temporary drain, and last, but not least, the sheet screen to shield the wound against infection from the patient's mouth.

CASE I.

Mary S., single, aged twenty-three. Admitted to Jewish Hospital February 2, 1898. Family history negative. Has been obliged to make her own living. Four years ago there developed a goitre. Some time thereafter she became extremely nervous and hardly able to do her work as maid. Has suffered almost constantly from palpitation. Diarrhea occurs often. Has been treated by medicine and topical applications almost continuously.

Present condition: Patient rather pale and thin, with poorly developed musculature. The voice has a very distinct tremor, pulse 90–100 when at rest. On slight exertion mounts to 120 or more. It is very hard. In the mid-line of the neck a goitre as large as a small fist is easily made out, and is found to extend over to the right side. The tumor is soft and the superimpaired hand feels a distinct pulsation of the entire growth. Exophthalmos very slight but more marked on left side.

Operation February 8, 1898. Ether narcosis. Collar incision. The exceedingly vascular tumor was found to be mainly located in the right lobe. This was isolated, and after tying the superior and inferior thyroids removed beyond the isthmus, which was tied off and severed with thermo-cautery. The wound was closed, except for capillary drainage. Within a few hours after the operation the pulse ran from 120–160, but continued regular. With it there was an elevation of temperature, maximum 102° on the evening of the second day. From this time on the recovery was uninterrupted. The patient was discharged well, March 14, 1898. Three years later the patient presented herself. There was no recurrence of the goitre. The pulse even in marked activity was under 90. There was still a slightly greater width to the left palpebral fissure, otherwise the patient was well and fully equal to her task as maid.

CASE II.

Mrs. E., aged thirty-three years, widow, mother of one child. First seen September 21, 1903. Family history negative. Onset of goitre about ten years ago. Increase most marked during last six years. For a number of years has suffered very much from severe cardiac palpitation, great weakness and severe nervousness. Notices at times, although not constantly, twitching of the eyes and occasionally a squint. Has lost twenty pounds in weight and ascribes this to loss of sleep and appetite.

Physical examination: Rather anemic patient and otherwise showing evidences of considerable weakness. The neck shows enlargement of thyroid gland about the size of two fists, which extends much more under the sterno-mastoid muscle of the left side. The growth is rather soft and is easily movable. In certain situations an indistinct thrill is discernible. The tumor does not reach to the suprasternal notch. There is a very distinct stridor when patient takes a deep inspiration. Exophthalmos not very marked, but there is a distinct divergent strabismus. The heart's action is very irregularly hastened, the pulse varying from 100–130. During last three months patient claims to have lost considerable strength.

Operation at City Hospital, September 28, 1903. Under cocaine anesthesia and collar incision a partial strumectomy was done. A part of the enlarged right lobe was left. Wound completely closed with buried sutures, except for small median drain. Except for the slight rise in temperature, lasting three days, and pulse acceleration to 140, the patient made an uninterrupted recovery. She was seen in October, a month after the operation. The tumor of the right side had increased somewhat, the pulse rate was under 90 even when stimulated. The exophthalmos is just discoverable, the strabismus continues. The patient feels that she has entirely recovered, being fully equal to her duties.

CASE III.

Mrs. C., aged forty six. Was first seen May 3, 1902. Married, the mother of ten children, the last one five years old. For ten years has had a goitre, but only during three years has she suffered from general symptoms. Has been extremely nervous and has been unable to look after her household, by reason of almost continuous cardiac palpitation and tremor. Has suffered much from sleeplessness and nausea and occasional vomiting. During the past three years has lost about twenty pounds. Internal medication, including repeated rest cures, has been of no avail.

Physical examination: Fairly nourished woman, goitre soft and of the size of the fist. situated in the mid-line and presenting a purring thrill when pressed upon. Pulse irregular while patient is at rest and over 100. Heart slightly enlarged, apex head to the left and lower than normal. Exophthalmos slightly marked, but Graefe symptoms very pronounced. Extreme tremor of the hands, patient barely able to write. Tremor of voice so marked that patient cannot read to her children. An operation which was advised was refused by the patient. May 26, 1904. the patient was admitted to the Jewish Hospital in very much the same condition. During the two years medication of various kinds was used without avail.

Operation May 28, 1904, cocaine anesthesia. Partial thyroidectomy, all of the right and part of left lobe being removed with collar incision. Wound closure with small temporary drainage. Maximum temperature on the third day 103°, maximum pulse rate on this day 142. On the sixth day after the operation the temperature reached the normal and the pulse rate was under 90. When discharged from the hospital, June 10, the pulse was 82 while patient was at rest, but slightly accelerated by walking.

An unusual feature in the post-operative history of the case was a persistent and very harassing short cough and difficulty in swallowing, which continued during three days until the drainage-tube was removed. Thereupon these symptoms disappeared at once. This patient was seen two months ago. She continues well as to heart's action and entire absence of tremor, general and laryngeal. The ocular symptoms are not noticeable. She has regained her best weight and has again taken full charge of her household duties.

CASE IV.

Mrs. L. F., aged thirty-four, farmer's daughter. First seen March 20, 1904. For six years has suffered from goitre, prominence of eyeballs and extreme tachycardia. Has been treated without success by many medicines prescribed by many physicians. During last six weeks has been confined to bed most of the time. Very frequently she suffers from fever, lasting two or three days altogether, coming on without any known cause. Has lost a great deal in weight. Menstruation has not been present for seven or eight months. Suffers very much from difficulty in breathing. Brought to Good Samaritan Hospital in an ambulance.

Physical examination: Exceedingly anemic woman, confined to her bed. Musculature wasted; weight eighty pounds; great prominence of eyeballs and inability to close the palpebral fissure. Stellwag's symptom very marked. Inability to converge the eyes. Pulse ranges between 140 and 150 with patient in bed. Temperature 102.5° on admission. In middle line of neck, extending more to right side than left, there is a well-marked goitre, not larger than the fist, rather soft, exceedingly vascular, as manifested by pulsatile thrill. Heart somewhat dilated, with apex pointing to the left and below the normal.

Operation at Good Samaritan Hospital March 28, 1904, under cocaine anesthesia. Curvilinear incision, partial thyroidectomy involving right lobe and left lobe, leaving the structure of the isthmus in place. The patient's temperature from the time of the operation became elevated during three or four days, with a maximum of 102°. The pulse rate increased from

160 to 190. From the end of the first week, although pulse and temperature came towards the normal, and at the end of the second week the heart's action was about 96. Three weeks after the operation the pulse of the patient was not above 84 while at rest.

On June 1 the patient reported at the hospital with the gain of thirty pounds, the exophthalmos had practically disappeared, although a slight lagophthalmos of the left side was perceptible. This patient presented herself again on January 6, 1905. Her weight now is 135 pounds, color normal, pulse rate after walking about eight or ten squares to my office, 90. No vestige of recurrence of goitre; exophthalmos has not recurred, although the widening of the left palpebral fissure is still perceptible.

CASE V.

Miss B. B., aged nineteen. First seen September 15, 1904. Family history negative. Before patient's illness began, in February, 1904, she lost a brother rather suddenly. She was then taken sick with a fever, which seemed rather slight. There has developed a swelling in the neck, with prominence of the eyeballs and rapid pulse. Has been treated in various ways by internal medication and local treatment, but without avail.

Condition on admission to Jewish Hospital, September 15, 1904: Fairly nourished young woman of blond type, with every symptom of Graves' disease well marked. The prominence of eyeballs is such that there is a continuous stare. Graefe's symptom not marked. The goitre is very pronounced and produces a tracheal stenosis when patient takes a deep inspiration. It is about the size of a fist, uniformly involving both lobes, soft, compressible and pulsating. Great restlessness at night, and inability to use her muscles for finer movements. Because of tremor has had to give up playing the violin after having achieved some artistic success at it. The pulse while at rest is between 100 and 120. Menstruation regular.

Operation at Jewish Hospital September 22, 1904, under cocaine anesthesia. On the morning of operation respiration was 16, pulse 116, temperature 98.2°. Operation consisted of partial thyroidectomy with collar incision. The entire right lobe and pyramidal lobe, which was somewhat enlarged, were removed. The bleeding was quite severe and not easily controlled. The wound was closed except for small temporary drain.

From the time the patient left the table her pulse rate rose until on the third day it ran to 180 and over, but could readily be counted by reason of its quality. The maximum temperature was 103°. Notwithstanding the fact that collapse seemed unavoidable, temperature and pulse rate were gradually reduced until on the twelfth day after the operation the temperature had regained the normal point and the pulse rate was down to under 120. The patient left the hospital October 13, 1904, with solid union of the wound.

Subsequent history: From time to time this patient has been under observation. There has been, of course, a reduction of the neck in size. When last seen, a week ago, the exophthalmos was still very marked and the pulse rate after walking a distance to the office was about 100. The tremor had to a very large extent disappeared.

To speak of a complete recovery is out of the question in this case, and the acknowledgement must be made that the improvement, although marked, was not equal to the expectation. It is likely that a further removal of a part of the left lobe of the gland must be made before a condition approaching the normal can be secured. The case seems to bear out the view that in proportion to the extensiveness of the operation limiting the output of thyroid secretion are the degree and permanence of the success achieved.

CASE VI.

I have reserved for the last, because it was my first, a case operated upon in 1894. It was performed under chloroform anesthesia, because I was not at the time familiar with the ease with which the operation can be performed under cocaine.

St. J. M., male, aged sixteen, photographer. Admitted to Jewish Hospital August 29, 1894. Family history negative as to goitre. Had ordinary diseases of childhood. Two years ago patient noticed swelling on right side of neck, which grew to its present size in two months. Simultaneously he became aware of lassitude on light exertion and inability of working full time. Eyes became rather prominent a few months after the appearance of goitre.

Status on admission: Slender, blond youth with ruddy complexion. Exophthalmos rather marked. In mid-line of neck, but more marked on right side, pulsating goitre about the size of a peach. Tumor soft and moving with trachea. In upper part a distinct thrill can be elicited by slight compression. Muscular tremor very marked. Pulse rate on slight exertion rises to 120. When at rest it is about 90.

Operation: Chloroform narcosis. Oblique incision over tumor and exposure after division of the covering muscles. Ligation of superior and inferior thyroid vessels, followed by removal of the entire right lobe. Isthmus divided with thermocautery. Wound closed with drainage.

Patient recovered promptly from operation. Temperature in the evening of second day rose to 103.2°, pulse to 150. On the sixth day temperature was normal and the pulse rate 90. From this day on the recovery was uninterrupted.

Although this patient was operated on eleven years ago, there has been no recurrence. I saw him last two years ago. There is no trace of exophthalmos, goitre or tachycardia.

VITAL VALUES.*

BY CLARENCE H. VAUGHT, M.D.,
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Surgeon L. & N. R. R.; President Madison County Medical Society; Member American and Kentucky State Medical Associations.

Which is the most valuable to a man, his life or his property? The suggestion of such a thing for discussion would, in most any audience, be a good and sufficient reason for either stopping the essayist altogether or for steps to be at once taken to test the mental condition of the contributor, but I know my hearers too well to anticipate either alternative being taken to-day, and will therefore venture some crude suggestions on this theme, and should I so far succeed as to convince some of you that property is often more valuable than life, the paper will have accomplished all for which I had intended it.

It must have occurred to all of you that life should be the priceless jewel of our possessions, a thing we can have but once, at least in this world in which we live, while property is an asset that may come and go with so great regularity as to excite little or no comment, and yet, once in our possession, we hold it as though it could never get away, and place upon it often more value than upon even life itself. No fee is thought too large for the attorney who, when our property is threatened, can make clear the titles to our land and prevent the pirate from entering there. Your skill, however marked; your lifelong application, your special training, your acknowledged ability, pale into insignificance compared with that of the man who defends titles and saves us from threatened financial disaster. And why is this? It is because the one deals with money, the other with life. Yes, absolutely so.

I well remember that my professor of theory and practice said to the class of which I was a member: "You have your diploma now, and expect to accomplish great things, but not one of you will ever save a life." I do not agree with this statement, for I am as sure as I am of any proven fact that the well-equipped physician does save life. While we who respect the code make no such claims to our patients, and I am sure we could not convince them if we did, yet they see a most desperate case that claimed your attention by day and by night, the splendid application of the best in your art, only a dim ray of hope, nothing more. But the crisis is past, the high temperature gone, the muttering delirium has given way to the normal mind, resolution and recovery. Could the laity ever know your pleasure and genuine happiness at such an outcome of such a case he would put his arm around you and tell you how much he appreciated your effort and would always do so for what you had done for him or his. But this pleasure is not for us; seldom, indeed, it is that you have fully pleased your patient to such an extent that he can walk up to you, pay you well for your services, and tell you that he regrets that he cannot pay you more, or that he fully appreciates your splendid effort.

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* Read before the Madison County (Ky.) Medical Society.

What a stimulus this would be to you to make an effort to become greater and better, a more skilled physician, giving a sense of security that money cannot buy, a feeling of satisfaction worth more to the doctor than all else.

But yesterday, perhaps, you were given scant praise. The relatives trusted you with life, and how well you protected the trust we have already shown. In that hour the real-estate dealer that sold the property, or the attorney that prepared the deed, had little to do with matters. Who was the man of the hour? It was the family physician. But the patient is again well, the doctor forgotten, and any body could have done it as well. A robust constitution and Providence really did the work, any way, and perhaps you were even accused of being a robber should you present a reasonable bill for your services.

The family physician, as I said in a paper read before the State Society a year or so ago, much to my regret, is fast becoming a thing of the past. Any body will do now; all about the same. Has it not often occurred to you that the average man cares little about the moral character, the fitness or qualifications of his medical attendant, oblivious of the fact that this man must know every secret of the home, must glance at the concealed skeleton that is in every closet, must of necessity be nearer than can any body else on earth save those of the household, of the closest blood and relationship. You will find no such carelessness as this if it is property that is threatened instead of human life. Then none but an able lawyer need apply, one on whom no suspicion can rest, must be of proven ability, and one whose character has never been questioned. Or if you are to be admitted to the homes as a social equal you must bring a clean bill of character and breeding. I say that of far more importance than all these things is the character and ability of the medical attendant.

And why the difference? Is it because we have no such types in our profession? No, certainly not, as I believe that our profession and the men who compose it will compare favorably with any other of the liberal professions in the world. It is, first, because the average American citizen has about as much conception of the qualification and competency of a medical man as a Filipino chief would about polite society; second, because very little is the matter, and any body will do; no property is at stake, only a human life. In God's name, if these are true, and the picture is not greatly overdrawn, let us try to do away with this condition of affairs; let us make the profession better because we belong to it; let us have higher ideals in moral character—and on your diploma you read that you have a good moral character—and equip ourselves so thoroughly that we will have more influence with people at large, and help to teach them that the lives with which we deal are worth more than all the property of a Morgan or a Rockefeller.

Now we must touch on another phase of this question, one that is of very deep concern to your patrons and of necessary interest to you. Hypothetically, we will say that you have a case of fulminating appendicitis with which to deal, and it happens that this case is among your better patrons—the wealthy class, if you please—and the head of the family, we will say, has an estate the value of which is $50,000, and by his personal management of it he makes it earn him $5,000 a year. His age is thirty-five. According to Dr. Osler's reasoning, he would have five years in active life, and twenty years before he should be chloroformed, making, we will say, twenty-five years before him, everything for which to live. But our patient can no longer look after this splendid estate, he has appendicitis, something must be done to relieve him or he dies. You honestly but reluctantly tell him you believe an operation the only thing that offers any hope. Perhaps the first thing your patient will want to know is if you can do the operation; and, second, and a very close second, what will be the cost. You say $2,500. He will gather his remaining strength and ask you if you have not lost your mind, or is it that you think he is mentally incapable of knowing the value of money. He will quickly assure you that he is in full possession of both his mind and his money, and assure you that he is far from being a millionaire, and that such a fee would be an outrage on decency, and that notwithstanding your advice he will worry along without so expensive a luxury. It may be that you have by such an extravagant statement been asked to retire, and a cheap man is called. He tries very hard to make it out some other condition than you had, but it won't be anything else at all. The operation is undertaken, but valuable time has past forever, and the patient dies. Then the wail of the widow and children is consoled by this mountebank, assuring her that she had waited too long before calling him. This life was perhaps sacrificed rather than pay the fee.

But, on the other hand, he has bought his bonds and property from different heirs, and after a time he detects that the deeds are faulty, the clause of general warranty has been omitted, and it will require immediate attention or $25,000 of the estate will be lost. Does he then look for a cheap lawyer, or a jack-leg! No, sir, he will consult only the best, and after an hour a contract is made and the fee, $2,500, absolutely paid (for a lawyer always fixes the fee first, while you make it the last; the one deals with property, and you only with life—duty first, pay last). The case comes to trial and is won, no flaws in titles now, all safe. Why, he will go to the lawyer and shake his hand and tell him he did most excellent service, and the case was skillfully handled. Perhaps a dinner is prepared and the lawyer the guest of honor, and the friends of this man are told how well the case had been managed. But to some inquirer, his fees are very large. "No; very small for the amount involved." He was dealing with property, you will remember, while you were a robber, as you were dealing with life.

I would not have you infer that I hold aught against so noble a profession as that of law; not at all. I am simply going to show you the difference between how some people regard property and life, and the easy sailing the lawyer has compared to yours.

Suppose we now investigate, in a brief way, the preparation of men entering the professions. The lawyer, we will suppose, has a good education, or at least should have, and sometimes, not often, he takes from three to six months in a law school, and he receives his degree, or perhaps he simply passes an examination before a coterie of his peers. The thing is done, he is a full-fledged lawyer. But the doctor, he, too, has a good education, or should have; he begins the study of medicine, he does not get out in from three to six months, and an examination will do him no good. He must study for four years, and must have a diploma, without which he would be arrested, by your sanction, and you would help employ one of these attorneys to prosecute him. You have seen that it requires more time to become a good doctor than to become a good lawyer in the beginning, and you must take a post-graduate course at least every five years to keep up with the procession. If you fail to do this your associates will talk about you being a fairly good man, and in your day you were all right, but now woefully behind the times. Who ever heard of a lawyer taking a post-graduate course. He don't have to if he is at all successful; he has sailing that is easy, for he deals with property, while you deal with life. He does not travel cold nights, or in mud and rain, as you do, and when you reach your homes, tired and worn, if you have a conscience, and I know you have, you know that you have something more important with which to deal than a case in equity; you have human life at stake, and want to give the case the attention it so justly demands.

After these things are said, and if they are true, does it not seem strange to you that your fees are on an average of about one-tenth of what an attorney gets? You have seen that it requires more time, more patience, and certainly as much intelligent effort, to practice medicine as it does law, but when it comes to being compensated for services you are not in it, and never will be as long as you cut fees in order to meet the prices set by some juggler, or permit your patrons to accuse you of robbing them and agree thereto. I am more than glad to know that there are some people left who demand competent and skillful service, coupled with as high character as you can attain. These, it is true, want this service as cheaply as it can be had, and in this they are eminently correct.

Take nor agree to take a contingent fee in any case. Do the best you can in every case you treat. Bring good judgment to bear. Charge well for what you do. Respect and reverence those men in your profession that are true to the Hippocratic oath. Never countenance deceit and fraud. Don't lie on your colleague. Shun the pretender and the man that got there too late to save your case. You should all know the true from the spurious, even should the laity fail in this particular. Dignify the profession that has honored you. Become a missionary, teaching that a life, however humble, is worth saving, and cannot have a money or property valuation placed upon it.

TREATMENT OF DIPHTHERIA.*

BY M. A. ALBL, M.D.,
CLEVELAND, O.

This paper is based on a personal experience in 106 cases, 37 of which occurred prior to the period of antitoxin, and 69 since. Of the first 37 cases, 25 were uncomplicated, the membrane extending over the tonsils and uvula only. In 4 the membrane extended into the nose and pharynx; and in 4 there was extension into the larynx as well; 4 were purely laryngeal.

The mortality rate in this series of 37 was 30 per cent. Of the 11 fatal cases, 7 were pharyngeal, 4 were laryngeal.

Since the period of antitoxin I have treated 69 cases, 48 of which were pharyngeal and naso-pharyngeal, 10 were purely laryngeal, and 8 were pharyngeal and laryngeal.

In this group the mortality rate was reduced to 5.8 per cent. Of the 4 fatal cases, 2 were of the buccal variety, 1 pharyngeal, and 1 naso-pharyngeal.

In the first group of 37 cases, 3 were six months to one year old, 7 between one and two, 9 between two and three, 13 between three and five, 4 between six and eleven, and 1 was nineteen years old. Twenty-six were females and 11 males.

Of the 36 cases treated by the antitoxin method, 7 were between six months and one year old, 16 between one and three years, 28 between three and five, 15 between five and twelve. Of these, 41 were females and 15 were males.

In the 37 cases treated prior to the period of antitoxin, the following was the general plan practiced: First of all, the patient was placed under the most sanitary surroundings as to room, ventilation, light and quiet that was attainable. The patient was given the best food that could be provided. Especial attention was given to the milk, which was given at two-hour intervals. Bread and milk, eggs beaten up in milk, whisky, bouillon, tea, coffee, ice-cream, beef-juice and panopepton were the various articles of food recommended. One to two teaspoonfuls of best quality of whisky or brandy was given every two or three hours, according to the requirements of the case. Special attention was given to the cleansing of the nasal and buccal cavity, using with a camel's-hair brush or atomizer various solutions, the following being most frequently employed:

Hydrarg. bichloridi, . grains i–ii.
Hydrogen peroxide . . }
Kalinol, Glyco-Thymoline or } aa ℥i.
Listerine, . . . }

M. Use every hour or two according to severity of case.

I have frequently used tr. ferri chloridi, by means of atomizer, in strength of one dram to two drams. In the nasal cavity Kalinol, Glyco-Thymoline or Listerine, one-half a teaspoonful in one-half cup of water every three to four hours. The tr. ferri chloridi in doses of from one to ten drops, according to age, were frequently repeated if the symptoms were urgent. Quinine in doses from one-quarter to two grains were given every three hours. Strychnine $^1/_{800}$ to $^1/_{24}$ gr., frequently repeated. When there was a failing of the circulation, tincture of digitalis, one-half drop to eight drops every three or four hours. In cases in which there was a large accumulation of mucus in the bronchi atropine was given. In the laryngeal type the patient was given from five to thirty grains of calomel during the first twenty-four hours. Unless relief was obtained within this time this measure generally was not satisfactory. Steam, impregnated with lime, turpentine and eucalyptus permeated the air of the room. When laryngeal obstruction was approaching intubations were done. In otitis media hot applications were made and the ears cleansed with solution of formaldehyde. When the drums did not rupture when under pressure they were punctured. Nephritis was treated by hot baths, cupping, the local application of heat, copious draughts of water, digitalis prepared from the fresh leaves, citrate of potash and pilocarpine, as necessary. As hydragogues, olem tiglii, elaterium, and compound jalap powder were given after the urgent symptoms began to disappear. In the cases in which paralysis developed, rest, strychnine in large and frequently repeated doses, and electricity were depended upon. In the cervical adentitis cases a 50 per cent. ichthyol ointment was used, and when the process went on to suppuration the abscess was opened and drained. In the anemia which often followed, iron, quinine and arsenic were frequently given.

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* Read before the Ohio State Pediatric Society at Columbus, May 9. 1905.

In the last 69 cases the treatment was entirely changed and reliance was placed entirely upon antitoxin. The hygienic measures were the same as before, but the medicinal remedies were only antitoxin. In its administration I have usually given 3,000 or more units in the initial dose, and if improvement is not noted in from six to eight hours the original dose is repeated. This is done again and again until results are obtained. In several cases it was necessary to intubate.

The contrast between the clinical picture of the first 37 cases treated on the empyric lines then in vogue and the 69 cases treated purely with antitoxin and hygiene is most striking.

In the first place, the mortality rate has fallen from 30 per cent. to 5.8 per cent. The complications have been rare in the latter as compared with the former. The duration of the disease has been cut short. The prophylaxis in other members of the family has been complete. Even in the cases intubated one sees a marked contrast. In the earlier cases it was necessary to allow the tube to remain from four to eleven days or longer. In the antitoxin cases from twenty-four to forty-eight hours usually was sufficient. The only cases treated by the antitoxin that were not entirely satisfactory or that proved fatal were these in which the disease had extended too far before the treatment was begun. At the present time I feel, from my own experience, the greatest confidence, if called early, in meeting and controlling any case of diphtheria. In my own experience there does not seem to me to be any remedy of such magical power as diphtheritic antitoxin.

TWO CASES OF CÆSAREAN SECTION.

BY J. F. BALDWIN, M.D.,
COLUMBUS, O.

CASE I.

Mrs. C. B., aged twenty-two, married five years; physician, Dr. A. Cooper, Columbus, O.

Patient was first seen March 16, 1905. (Had been delivered three years before with forceps, after a hard labor of thirty-six hours. Delivery was accomplished with very great difficulty, the child weighing eight pounds, and being still-born.) Patient was supposed to be seven and one-half months pregnant when seen. Pelvic measurements showed a generally contracted pelvis, measurements being between the spines, eight and three-fourth inches; between the crests, ten inches; conjugate, six and one-half inches. Uterus in good shape. Vagina relaxed. Old laceration of the perineum. Advised that premature labor be brought on in three weeks, hoping that the child at that stage of maturity might be delivered.

Patient entered the hospital on the afternoon of April 7, and labor was at once induced by the introduction of a catheter. The cervix was already soft and patulous, and the patient quite large for the supposed stage of her pregnancy. Labor pains came on very soon after the introduction of the catheter. At the end of twenty-four hours Dr. Cooper ruptured the membranes, the parts being in good condition, but with no engagement of the head. At 1:30 A.M., April 9, had been in labor thirty hours without any engagement, and the head being quite well ossified it seemed useless to delay longer, especially as the patient was becoming exhausted, as shown by elevation of temperature and pulse of 120. Assistants being called, Cæsarean section was made at 2 A.M., Drs. Cooper, Moore, Dixon and F. O. Williams being present. The usual longitudinal incision in the uterus was made, and at once an arm presented. The head was pulled up from the pelvis, and thus the child delivered head first. The child was slightly asphyxiated, but was soon revived by Drs. Cooper and Moore. Both tubes were removed into the horn of the uterus so as to prevent future pregnancy, the uterine incision closed with chromicized catgut, and the abdominal incision closed in the usual way. The vagina was then washed out with hot sterile water, some clots removed from the womb, and the usual dressings applied. The conjugate diameter was so shortened that the uterus, although well contracted, could not descend into the pelvis. The child was a male, weighing seven and one-half pounds, and was clearly much further advanced in utero-gestation than had been expected. Mother and child left the hospital in fine shape April 30.

CASE II.

Mrs. A. S., Urbana, O. Physician, Dr. B. W. Leonard, West Liberty, O. Aged forty; married seventeen years; mother of eight children; age of youngest, two and one-half years. Patient's first four pregnancies terminated without trouble, but delivery in the last four was instrumental, with one child still-born. With her last confinement she remembers that her attending physician (she was then living in Pennsylvania) told her something about a bony tumor which interfered with delivery. Was sent to the hospital April 10 by Dr. Leonard, who had seen her for the first time on the previous day. He found her having light labor pains, and on examination found a very hard growth so far filling the pelvis as to render natural delivery impossible.

On personal investigation the patient was found apparently pregnant about eight months, which corresponded with her count. The cervix could be made out by passing the finger between the symphysis and the hard tumor, which pushed forward, apparently filling the pelvis except for a narrow space anteriorly. This tumor was very hard, but did not seem to be bony. Was slightly movable, but could not be pushed up. Its exact character could not be determined. It might be a pedunculated fibroid, or a cartilaginous growth from the bony walls. The cervix was soft and partially dilated. Labor pains had ceased under the influence of morphine. Cæsarean section seemed to be the only suitable method for delivery, and the hour for its performance was arranged at 10 o'clock on the day following. During the afternoon and evening, however, labor pains again came on, which were ineffectually controlled by opiates, and in the early morning of April 11 it was found that the breech, which was the presenting part, was being forced down, the labor pains being very hard and almost continuous. Under the circumstances, therefore, it seemed unwise to delay operative intervention. Accordingly, at 7 A.M. the operation was performed, Drs. Moore, Frame, Adel, Cooper and Cooperrider being present. The usual incision was made and the child quickly delivered, as the presenting part was the head. Owing, perhaps, to the long labor, and the forcing down of the breech into the pelvis, the child was decidedly asphyxiated, and was resuscitated only after prolonged efforts on the parts of Drs. Moore and Cooperrider, without whose skillful efforts the child would probably have perished. Uterine incision closed with catgut, the Fallopian tubes being removed as usual. The uterus being then lifted up, the tumor was drawn up out of the pelvis, but only with a great deal of difficulty, and was found to be a fibroid of the right ovary. It had a long pedicle, and its removal was a very simple matter. Convalescence was uninterrupted, and patient left the hospital with her babe May 5.

These cases are the eighth and ninth in my series of Cæsarean sections, the series having been completed without maternal or fetal mortality. All cases have been operated upon without any selection whatever. In several of the cases forceps had been used without avail, and in one case the patient had been in labor eight days, and was very greatly exhausted. So far as can be ascertained, there have been eighteen Cæsarean sections performed in Columbus, with a maternal mortality of seven; fetal mortality unknown.

Society Proceedings.

THE ACADEMY OF MEDICINE OF CINCINNATI.

Meeting of April 24, 1905.

THE PRESIDENT, MAGNUS A. TATE, M.D., IN THE CHAIR.

STEPHEN E. CONE, M.D., SECRETARY.

A Case of Innocently Acquired Syphilis in a Boy Aged Thirteen.

DR. WADE THRASHER: S. B., a boy aged thirteen, called April 14 to consult me in regard to a throat affection. Examination revealed the typical lesions of the secondary stage involving the soft palate, uvula, pillars and tonsils. The upper posterior portion of the epiglottis is studded with syphilitic vegetation. The larynx presents a chronic erythema with superficial ulceration of the cords and ventricular bands. The cords are thickened and the voice aphonic. When I first saw him he had a violent conjunctivitis, a slight marginal keratitis and choroiditis. Family history is good; no miscarriages. His brothers and sisters are exceptionally healthy and free from evidences of hereditary disease. Removing a bandage from his hand I found the initial lesion or extragenital chancre on the knuckle of the index finger of the left hand. He first noticed this erosion about one year ago. Last October the secondary symptoms began to appear. There is some induration of the superficial lymphatic glands of the elbow, axilla and cervical regions of the left side. The cutaneous manifestations in this case seem to have been limited to the papular erythematous variety of syphilide, and even this eruption has been scanty. We can probably account for this by the fact that he has a generalized ichthyosis simplex. The most interesting and unusual feature of this case is the duration of the chancre, which has extended over a period of one year. This boy has been treated at a clinical institution of this city for the last four or five months, but, judging from his condition at the time I first saw him, I fear the character of his trouble was not realized. Under appropriate treatment he is now rapidly improving.

DISCUSSION.

DR. E. H. SHIELDS: The case which Dr. Thrasher presents is certainly very interesting, but, so far as I can see, I am compelled to take issue with him on the question of diagnosis. Instead of the boy suffering with syphilis I am inclined to believe—in fact, very positive—that the lesion on the hand is *tubercular*. It is common to find syphilis in young people and in all walks of life, but to make a positive diagnosis of syphilis from the initial lesion alone is unjustifiable. In order to be positive of our diagnosis we must find the other two symptoms of the triad, viz., the angina and the eruption. In this case they are lacking. The history of this case, viz., that the lesion has been present for more than a year, speaks against it being syphilis, and, furthermore, the lesion in the boy's throat bears absolutely no resemblance to syphilis, but to me is quite characteristic of tubercular disease. I don't think that I have ever seen a more typical case of tuberculosis. The question of diagnosis can be readily decided in three or four weeks. If the lesions are due to syphilis they will clear up and disappear in a very short time under a thorough mercurial treatment, while, on the other hand, if the lesions be of tubercular origin the results of mercurial treatment will be negative. I should like to hear the results in this case as ohtained by anti syphilitic treatment. If I am incorrect in my diagnosis I should like to know it.

DR. M. L. HEIDINGSFELD: I also beg to differ from the diagnosis of syphilis in the interesting case presented by Dr. Wade Thrasher. I am inclined, with the previous speaker, to believe that the case is one of tuberculosis rather than syphilis. The lesion on the hand bears the earmarks of tuberculosis rather than those of syphilis. Its duration of a year would be most unusual for syphilis, but typical and characteristic for tuberculosis. As nearly as I could determine through the boy's underclothing, there is no enlargement of either the axillary or cubital glands on the corresponding arm, whereas, if the ulcer were the initial lesion of syphilis the axillary glands ought to be, even after a year's interval, or at least as long as the chancre is active, very markedly enlarged. The clinical appearance of the lesion is that of tuberculosis vera—a superficial granuloma, covered with a thin sero sanguinolent crust. There is marked infiltration and induration of the base and edges, so characteristic of a syphilitic process, and no cicatrization and pigmentation which ought to accompany a chancre of a year's duration. I am less free to express myself regarding the lesions of the mucous membranes; they bear a suggestion, from the superficial and rather unsatisfactory examination, of tuberculosis. The case impresses me as a primary tuberculosis of the mucous membranes, with a secondary infection of a skin lesion on the dorsum of the hand, by tubercular bacilli-laden sputum, as often occurs in individuals who suffer from pthisis pulmonalis.

Dr. A. B. Thrasher: It seems to me that we have a very interesting case here this evening. Because the gentlemen who have just spoken do not see any symptoms except on the hand and do not consider this case to be syphilitic is proper from their standpoint as dermatologists, but the appearance of the fauces is typically that of syphilis. In the first place, it is exceedingly rare to find tubercular manifestation in this region. Here we have a typical old-fashioned German garden, we have almost identically the same lesions on both sides of the throat. That is never present in cases of tubercular trouble. In cases of tubercular disease we are apt to have a condition in which the tissues have a pale, pasty look, not the greatly congested, reddened appearance which this case presents. We have also over the epiglottis the buccal surface manifestations of the disease. The under surface is more apt to be affected in tubercular disease. The fact that we have present here a lesion which we have supposed to be the primary lesion (that is on the hand), but which may not be the primary lesion, of such long duration is one thing that makes the case of very considerable interest. Dermatologists should be more able to differentiate between syphilis and tuberculosis in a lesion of this kind. To me, macroscopically it bears the exact appearance of a syphilitic lesion, and I think that that would be the first impression which would be given to any one looking at this sore. The fact that it has been present so long is entirely out of the ordinary—in fact, the entire case is out of the ordinary. It differs very essentially from hereditary syphilis. Hereditary syphilis, we know,as a rule, makes its appearance before the patient is one year old, sometimes appearing at three months, sometimes at six, but by the time the patient is twelve months old at least in 50 per cent. of the cases syphilis has appeared and disappeared under treatment. That, however, does not mean that this might not be a case of hereditary syphilis. In this case, however, the initial lesion is on a thickened dermal membrane. I have had under my own observation a very well-marked case of primary initial lesion of the lip innocently acquired, in which the induration and the hardened typical appearance of the chancre was present nine months, and in three months after its appearance there was evidence ot marked trouble in the pharynx. There were marked mucous patches present in the throat and over the tonsils. Dr. E. W. Mitchell saw the case with me at one time.

In reference to the pharynx in this case I have no doubt that treatment will clear that up soon. In the majority of cases of syphilis we obtain results promptly from treatment, but there are cases which do not yield quickly to treatment. If this case has anything tubercular about it, this has, in my opinion, been engrafted subsequently to this initial lesion. There is no indication of the lung or any other organ in the body being affected with tuberculosis.

Dr. Heidingsfeld: The question of a diagnosis in this case between syphilis and tuberculosis can be promptly and even more satisfactorily settled than by the employment of therapeutic measures, by a very simple test, and that is by a test injection of tuberculin. If a test injection is made and a prompt temperature reaction follows, as invariably occurs in cases of tuberculosis, our diagnosis of tuberculosis can be easily and completely confirmed. I beg to differ with Dr. A. B. Thrasher as to the ease with which syphilis on mucous membranes can be differentiated from tuberculosis. I don't believe that either the distribution or clinical appearance are always characteristic, and I have seen examples of each which were decided puzzling to both myself and nose and throat specialists, who saw the cases in consultation, until therapeutic or other tests were made. Both are exquisite types of granuloma, with differences in structure so slight that even the aid of a microscope fails at times to clearly elucidate.

Dr. Wade Thrasher (closing): I have only a word to add. I have had this boy under antisyphilitic treatment for two weeks, and all of the objective symptoms are very considerably better than at the time I first saw him. That, to my mind, speaks very well for the case being syphilitic in character. The case is a typical case of syphilis except for the duration of the chancre. This unusual feature prompted me to bring the case before the Academy.

Case of Epithelioma.

Dr. M. L. Heidingsfeld: This patient, aged seventy-one years, presents an epithelioma, considerably larger than a silver dollar, over the left temple, which is of particular interest in reference to the character of treatment which should be employed—caustic, knife or X-ray. The development has been unusually rapid, covering a period of less than two years, which is hardly commensurate with the extensive ulceration, with the marked degree of elevation and infiltration of the borders, and the involvement of the underlying periosteal and bony structures. It presents all the characteristic features of an epithelioma of this region, of usually five to ten years' duration. The use of the knife is precluded not because the extensive involvement of the underlying structures would make such an operation prone to recurrence and prejudice a successful result, but because the defect from such a course would be too extensive to properly and easily remedy. The use of a successful paste is also precluded practically for the same reason, and the pain and distress from a proper degree of reaction would be more than the frail patient could well stand. The only successful remedy by exclusion at our command is the X-ray, and it is in this particular class of cases, where other usually more prompt and successful measures cannot be employed, that the X-ray is particularly applicable. If the X-ray possesses therapeutic powers of any marked value it must be shown in this particular class of cases. The X-ray has already been employed, with some signs of immediate improvement, and I will be very pleased to show the patient and report the result at some later date. She has a large number of senile keratoses over the face and hands, and a smaller epithelioma on the right forehead was successfully removed by means of a modified Marsden's paste, by Dr. Adamson, of Maysville, Ky., by whom the case was referred to me.

Exhibition of Specimens.

Dr. J. E. Greiwe: 1. *Specimen of Sarcoma of the Breast.*—This specimen presents the typical appearance of a sarcomatous growth, both in the connective tissue growth and in the appearance of the giant cells, to which variety of cell this growth belonged.

2. *Specimen of Sarcoma of the Antrum.*—This specimen was sent to the pathological laboratory of the Cincinnati Hospital for diagnosis. The case was one of tumor of the antrum which presented itself at the clinic of the Medical College of Ohio, at the Nose and Throat Department. Dr. Conner removed a large part of the upper jaw-bone, exposing the tumor in the antrum.

Both of the above-mentioned tumors are typical sarcomata of the giant-cell variety, these cells being of a large multinuclear variety and scattered profusely in the growth.

3. *Specimen of Syphilis from Head of Penis.*—This specimen was removed from the head of the penis, and was also sent to the hospital for diagnosis. There may be some question as to the character of this tumor. There was quite a good deal of speculation among those who saw the specimen through the microscope, and we were inclined to pronouce it carcinoma from the general arrangement of the cells, viz., in distinct groups of nests surrounded by connective tissue. As I was about to pass the specimen up and make a diagnosis of carcinoma my eye came across a blood-vessel which was rather characteristic in appearance and excited my suspicions that syphilis might be at work here. We know that syphilis attacks the blood-vessels and produces a typical endarteritis, and that was what I found in this blood-vessel. Syphilis attacks the intima, producing a typical circular arrangement of the cells of the intima, and nowhere else do we find this distinctive pathological process in such a marked degree. I have been told that this patient has been placed upon antisyphilitic treatment, and he has been doing well under this treatment.

DISCUSSION.

Dr. M. L. Heidingsfeld: Dr. Greiwe's third case is of particular interest, because it demonstrates two well-known fallacies to modern-day pathologists. Firstly, that the diagnosis of epithelioma cannot be made from a mere microscopic examination; and, secondly, that endarteritis obliterans, or marked endothelial proliferation of the blood-vessels, is not pathognomonic of syphilis. Dr. Greiwe's personal experience amply illustrated the first fallacy when he states that his first diagnosis of epithelioma was only changed by the appearance of a single blood-vessel to syphilis, and was later confirmed by the therapeutic test. Epithelial over- and down-growth, disarrangement of cells, nest formation and numerous old ear-marks of epithelioma are as frequently encountered in many simple chronic inflammations of the skin and benign forms of dermatoses that they possess nothing more than confirmatory value. The same is true of the endarteritis obliterans of Friedlander, Heubner and others, which for some time was held to be pathognomonic of syphilis. This condition is constantly encountered in all forms of chronic inflammation of the skin—for example, all of the chronic granulomata, keloid, chronic inflammatory conditions, such as chronic eczema, epithelioma, etc.—and is a matter of such common occurrence that little, and, to say the least, *no* diagnostic significance is attributed to it.

Dr. Walter R. Griess: I would like to ask Dr. Heidingsfeld his authority for stating that endarteritis obliterans is not pathognomonic of syphilis. I certainly am acquainted with all the recent text books, and they all give this condition of the blood-vessels as being pathognomonic of syphilis. You certainly can have an endarteritis due to any toxic substance in the blood, but you never have that extreme endarteritis in which the lumen of the vessels is almost closed by the proliferation of the cells of the intima produced by any other cause. In all the literature which has come to my notice I do not recall a statement to the contrary.

Dr. Greiwe: In reply to the last speaker, who stated that most authorities believe that endarteritis of this particular type may be found in any chronic growth, I would like to differ with him on that point. I can refer him to quite a number of competent observers who regard that as the most characteristic lesion of syphilis. It is true that this process may occur in other types of new growth, but it occurs with such frequency in syphilis as to be absolutely pathognomonic of the disease. Just now I recall the beautiful work done by Oppenheim on the brain and spinal cord, in which he shows changes in the blood-vessels, changes like those present in the vessel in our specimen of to-night, a typical endarteritis syphilitica. Recently I had occasion to present to members of this Academy a specimen showing syphilis of the brain, in which the basilar artery showed the seat of the disease. In that particular case the arrangement of the cells of the intima of the artery was absolutely characteristic of syphilis. You will find this condition present not only in the arteries of the brain and spinal cord, but also in the blood-vessels of the lymphatic glands in the immediate neighborhood of the inflamed syphilitic glands. I do not think that all observers consider that as evidence of a mere chronic inflammation, but they believe that there is something characteristic and pathognomonic of syphilis in this arrangement of the cells of the intima.

Dr. Heidingsfeld: I can refer both gentlemen to an abundant list of authorities to substantiate my statement that endarteritis obliterans is not pathognomonic of syphilis. I have personally observed the condition in a host of chronic inflammations of the skin where I had no reason to suspect even an associated syphilitic process. Unna, in his extensive work, "Histopathologic der Haut," 1894, p. 7, states: "Endarteritis obliterans is observed in the initial lesion and the later forms of syphilis, also in leprosy and tuberculosis, and more or less in all chronic inflammations of the skin." He mentions a long list of cutaneous affections in which the condition is prominent. I do not believe that the extreme degree of endarteritis alters the case. If it is of diagnostic value, it must be pathognomonic, syphilis or not syphilis, and relative degree should make no material difference.

Hematoma of the Ovary.

Dr. Merrill Ricketts reported the following cases:

Case I.—Aged thirty-two, white, single. Suffered for fifteen years with pain in left ovarian region. Menstruated regularly, but varying in quantity and severity. Exploration revealed hematoma of left ovary about the size of a hen's egg. The sac was very fragile and ruptured upon the slightest digital manipulation. Its contents were very dark in color. Gauze was used to clear the peritoneal cavity of this fluid, the belly wall closed in the usual way, with uninterrupted recovery.

Case II.—Aged twenty-six, white, married, no children. Suffered for several years move or less constantly. Most severe about time of menstruation, which has been irregular and slight. Exploration revealed enlarged right ovary. It was hard and without adhesions. It was removed and a cyst found within it containing about a tablespoonful of blood. Recovery uneventful.

Case III.—Aged twenty-five, white, married, one child. Had suffered ten years with great pain in lower abdomen, loss of flesh and great debility. Exploration revealed hematoma of right ovary and chronic appendicitis. Both the ovary and appendix were removed. Recovery uneventful.

Case IV.—Aged thirty-eight, white, married, two children. Suffered for seven years with severe pain, more or less constant, about right ovary. There was a great question as to whether the appendix or ovary was at fault. Exploration revealed chronic appendicitis and a hematoma of the right ovary. Both the ovary and appendix were removed, followed by uninterrupted recovery.

Case V.—Aged thirty-six, white, married, one child. Severe pain about left ovary for several years. Great tenderness at times, with disturbed menstruation. Exploration revealed hematoma of left ovary. The ovary was removed, followed by uneventful recovery.

DISCUSSION.

Dr. Magnus A. Tate: I would like to ask Dr. Ricketts how many cases of hematoma of the ovary he has had recently.

Dr. Ricketts: I have had five cases of hematoma of the ovary since the first of January, 1905. I think it is our duty to allow most of them to remain. However, I removed these two specimens because I thought it better to do so. I have had a number of these cases.

Dr. Tate: At the last meeting of the Southern Surgical and Gyneclogical Association I read a paper on "Hematoma of the Ovary," which is published in the May number of the *American Journal of Obstetrics*. I have been in practice fourteen years, have operated and assisted in operations many times, and so far have only seen one case. It has been my good fortune to have seen hundreds of sections, many by noted men, and I never saw a case in their hands. The number of cases presented by Dr. Ricketts surprises me. In a careful study of the literature in the preparation of my paper it was forcibly impressed upon me that I was dealing with a rare condition, and from the discussion of this paper by men eminent in their profession I was led to believe that their experience coincided with mine.

Dr. Walter R. Griess: Cases of hematoma of the ovary are not as uncommon as reported, for, as we see, the doctor reports five cases since January 1. I can very well recall several cases, and about three months ago operated upon a case at the Betts Street Hospital. The case was one from Dr. Edwin Landy's practice. She had a pelvic peritonitis of gonorrheal origin which was treated by the usual palliative methods, but the pain persisted for six weeks. We wanted to save her tubes and ovaries and were contemplating a posterior vaginal section and curettement, but the pain persisted and an abdominal section was made. On the right side we found a hematoma of the ovary about as large as a hen's egg and a double purulent salpingitis. I have noticed that ovarian hematoma are almost always associated with pelvic inflammation.

Dr. J. Ambrose Johnston: I have seen quite a number of abdominal operations, and I have never seen but one case of hematoma of the ovary. I have seen Dr. Reed operate four or five hundred times, and during this number of operations I saw him operate upon one case of this kind.

Dr. Tate: In making a diagnosis of hematoma of the ovary we must be careful not to make the mistake of calling an ectopic gestation or the rupture of a Graafian follicle hematoma of the ovary.

Dr. Ricketts (closing): In reply to the discussions I wish to say that about seven years ago last February I operated in Paducah, Ky., upon a physician's wife who had been suffering great pain for several weeks. Her pain was so great that morphine would not relieve her Her abdomen was opened, revealing a hematoma of the ovary, which I presented to this Academy. In the *New York Medical Journal* recently was an illustration of an agioma of the ovary which I presented here.

One of the cases mentioned here to-night was that of the sister of a gentleman who is in this room. One was a case of Dr. O. L. Norris, of Deshler, O.; another, the patient of Dr. McVey, of Berry, Ky.; another in this city; still another occurred in my own private practice, and was in the house several weeks ago. I have not mentioned names because the cases were in my private work—none of them came from clinics.

I have seen during the last eighteen or twenty years from twelve to fifteen cases of hematoma of the ovary, and I have also seen a few ovarian gestations. I have reported cases of ovarian pregnancy to the Academy, one in particular that went to full term, with nothing to ligate but the ovarian ligament. Hence, I think I know the difference microscopically between an ovarian hematoma and ovarian pregnancy.

In reference to the inflammatory process which has been spoken of in connection with these cases, I have found a straw-colored fluid in the peritoneal cavity in a few cases not ruptured, probably a quart in one. All of them are not hard, some of them are hard and some soft, the recent cases being hard and the older soft. In those cases of a day or so, or even two or three weeks, the ovaries are very hard. These are the cases in which the pain is the most severe. Those cases which I have reported vary in size from a teaspoonful to a hen egg.

CINCINNATI OBSTETRICAL SOCIETY.

Meeting of March 9, 1905.

The President, Sigmar Stark, M.D., in the Chair.

John H. Landis, M.D., Secretary.

Case Reports.

Dr. Rufus B. Hall: I have a number of specimens here that I wish to show because they are from patients with unusually interesting clinical histories. They illustrate some of the complications we have to deal with in pelvic and abdominal surgery.

Case I.—*Large Suppurating Ovary; Operation; Recovery.*

Mrs. P., aged thirty-six, married several years, no children. The patient was seen at her home near Ripley, O., with Dr. Francis. He had prepared her for operation, which was made December 22, 1904. The patient had been in bed seven or eight weeks. She was suffering profoundly from sepsis. She had a large pelvic tumor which occupied the entire pelvic space and extended into the abdomen two or three inches above the pubic arch. The patient's home was not satisfactory for operation, as the house was small, but her condition was such that she could not be moved with safety. The tumor contained more than two pints of pus. It ruptured during its removal, but the cavity was well walled off with gauze. The tumor was removed in pieces, as you will observe from the specimen. The patient had a tedious convalescence, but recovered and is now enjoying good health.

Case II.—*Cancer of the Body of Uterus; Operation; Recovery.*

Mrs. H., of Tremont City, O., aged fifty-six years, married, mother of several children. This patient had all the nervous manifestations of menopause at fifty years of age. Menstruation became irregular at that time, and she has had scanty bleeding from her uterus at irregular intervals ever since. For the past two years she has complained constantly of severe pain in the small of her back and has consulted a number of doctors for relief. A year and a half ago she was told by a prominent doctor in Springfield, O., that she had a pelvic tumor which was the cause of the bloody discharge. This discharge resembled bloody water rather than blood. Soon after that she consulted another prominent man in Springfield, who examined her and told her that the uterus was as large as a cocoanut and that he suspected she had cancer of the body of the uterus. He did not advise an operation. Her condition did not improve, and five or six months ago she commenced to have severe hemorrhages at short intervals. She became anemic.

When she consulted me, on January 26, the uterus was about the size of two cocoanuts. It resembled a fibroid tumor of the uterus, but the uterus was very much softer than in a fibroid. While making a bimanual examination she had a great gush of blood; I estimated it at more than half a pint. There was never that foul odor that we have with cancer of the cervix. I regarded the condition as cancer of the body of the uterus, and advised immediate operation for removal of the uterus. This was accepted and the operation was made January 30.

The operation was commenced by thoroughly scrubbing the vagina and dilating the cervix and curetting out more than two pints of soft substance resembling calves' brains. The uterus contracted readily after this, so that it did not appear larger than a small cocoanut. I did not use a sharp curette for fear I would perforate the body of the uterus and infect the peritoneal cavity; the object was more to clean up the parts preparatory to total extirpation. After the curetting the cervix was sewed up tight with silk, which, you will observe, is still intact. A circular incision was made around the cervix and the bladder was pushed back, but care was taken not to open the peritoneal cavity. The vagina was packed with sterile gauze and one end was left protruding from the vulva. The patient's position was changed, the abdomen was immediately opened and the uterus removed.

I have laid the uterus open and you will observe that half of its inner surface is the site of the cancerous growth, which extended, apparently, almost to the peritoneal covering.

The interesting feature in the clinical history is the long period (nearly two years) in which we would believe she had cancer, yet it did not extend through the uterine muscle. The patient made a prompt recovery.

CASE III.—*Double Pyosalpinx, with Multinodular Fibroid Tumor of the Uterus.*

This specimen was removed from a widow, aged forty years, whose husband died three or four years ago. She gave a history of pelvic disease extending over five or six years. In August last, after an acute illness lasting ten days or two weeks, I was asked to see this patient with her physician, Dr. I. D. Jones, of this city. She was suffering from acute sepsis, with a rapid pulse, high temperature and profuse sweats. There was a large tumor occupying the pelvis, apparently much larger than a cocoanut. This I believed to be an abscess. I advised that she be moved to the hospital and an operation be made at once, which was done September 2.

The operation consisted of opening the abscess through the vagina. We liberated about two pints of pus. She remained in the hospital seven or eight weeks, during which time the opening had a tendency to close and had to be dilated two or three times. Her condition improved rapidly after evacuation of the pus, and when she left the hospital she was enjoying fairly good health, except that the local condition caused pain. She remained comfortable for two or three months and then gradually grew worse.

At the time she entered the hospital for the radical operation there was a hard tumor the size of a cocoanut occupying the pelvis and extending into the abdomen, which I considered a fibroid of the uterus, and on each side was a tumor the size of a closed hand. The radical operation was made February 1. There was present a double suppurating tube with a multinodular fibroid of the uterus, as you will observe from the specimen. Each tube contained about an ounce of pus. There was no suppurating ovary present. My explanation of the large abscess at the time the vaginal drainage was made is that one of the tubes leaked and the pus was walled off in the pelvis similar to the walling off of an appendicular abscess. This patient has made a very satisfactory recovery. The specimen emphasizes the necessity of a radical operation in similar conditions.

CASE IV.—*Multinodular Fibroid Tumor of the Uterus, with a Fallopian Tubal Cyst.*

This specimen was removed from a married woman, aged forty-four years, a resident of this city, mother of several children. She had always enjoyed good health until about a year ago. She has had the reflexes of menopause for a couple of years, gradually growing worse. About a year ago, after missing a period or two, menstruation became irregular. This irregularity extended over five or six months. At the end of that time she commenced to bleed from the uterus, and she says that for six months not a single day passed that she did not bleed more or less. Several physicians examined her and each suspected cancer. I also suspected cancer of the body of the uterus in addition to her tumor. I advised an operation because of the distinct tumor which could be outlined at the side of the uterus, although this tumor was not larger than a large orange and there was the additional tumor in the uterus, much larger than an orange, which I considered a fibroid. The operation was made on February 15. The uterus was first thoroughly curetted. This revealed no indication of cancer. Then the abdomen was opened and the operation was made in the usual manner, leaving the cervix. She had an easy convalescence and sat up to-day (three weeks after the operation) for the first time.

CASE V.—*Large Soft Fibroid of the Uterus.*

This specimen was removed from a maiden lady, thirty-six years old, who had been conscious of the presence of a tumor in her abdomen for three years. You will notice this tumor is about as large as two cocoanuts laid side by side, and very much that shape, there being two large tumors joined together. You will observe that it is a beautiful specimen of soft myoma.

Hemorrhage was a marked feature in the clinical history of the case even before she knew of the presence of a tumor. Menstruation lasted from ten to fourteen days, and not infrequently the bleeding continued until the next period. For the past year, at the time corresponding to her menstrual period, she would have a little bright red blood, and after that bloody serum. She was so anemic that apparently she had no red blood. I have never operated upon a patient so profoundly anemic as this one. The operation was made February 10. She had an uninterrupted convalescence and is able to sit up to-day for the first time—twenty days after her operation.

CASE VI.—*Large Dermoid Cyst.*

This specimen was removed from Mrs. M., a widow forty-nine years of age, mother of two children. When I first examined this patient the tumor was considerably larger than an adult head and occupied the pelvis and abdomen. The uterus could be made out below it and to the patient's right, and was of natural size. The tumor appeared solid, yet it had not the appearance of a fibroid; it was too soft. It was more like a soft myoma. The patient had lost thirty or forty pounds of flesh in the past year after the tumor was first observed. She had the appearance of a patient dying of tuberculosis.

The operation was made February 24. When the abdomen was opened and the tumor exposed it had the feel of a bag of putty. A thin capsule surrounded the contents of the tumor. When the tumor was pressed upon it left the imprint of the fingers upon it for several seconds, a condition which is often observed in large dermoids. The tumor contained several pints of thick material almost as firm as putty, and a large roll of hair much larger than a pint cup. There was no bone or cartilage in the tumor. The patient has had an uninterrupted recovery.

CASE VII.—This specimen is a small ovarian cyst about the size of a cocoanut, which was removed from a married women, thirty-two years of age, mother of three children, patient of Dr. Richards, of Dayton, Ky.

This tumor was discovered by her physician several months ago. It occupied the pelvis and caused considerable annoyance and great mental disturbance to the patient because of the fear of an accident while she carried the tumor. For the past few weeks it had caused more than the usual amount of annoyance, and she was exceedingly anxious to have it removed. She was therefore advised to be operated, and the operation was made three days ago. She is thoroughly convalescent.

Intraocular Tuberculosis, with Report of Two Cases.

Posey, of Philadelphia (*Ophthalmology*, April, 1905), reports two cases, one of tubercle of the iris in a colored child of six, and the other tubercle of the choroid in a man of thirty-two. The reports are full and complete, with illustrations showing the microscopic and the macroscopic appearance of the growth, and the article goes deeply into the subject, giving us much valuable information. D. T. V.

Editorial.

MARK A. BROWN, M.D., Editor.

Cincinnati, Saturday, June 17, 1905.

THE MISSISSIPI VALLEY MEDICAL ASSOCIATION.

The President of this organization, Dr. Bransford Lewis, of St. Louis, has selected Dr. Arthur R. Edwards, of Chicago, to deliver the address in Medicine, and Dr. W. D. Haggard, of Nashville, the address in Surgery.

It is none too early for members of the Association who purpose reading papers at the ensuing meeting at Indianapolis to begin their preparation. Already a large attendance is assured. Indianapolis is both central and easy of access, and the local profession is wide awake and thoroughly up to date.

This is the leading district medical society of the great Central States, and from its inception, some thirty-one years ago, has exercised a wise and beneficent influence over professional affairs in the great valley of this country.

There is an evident growing unrest and dissatisfaction in medical circles, which may mean for good or it may be indicative of a feeling that it is quite the thing to be in an opposition party, where the man who believes it a virtue to object feels that here he has an opportunity for a hearing. In the Mississippi Valley Medical Association there are no factions, nor is there a medico-political machine. Every member of the Association is accorded precisely the same individual rights and privileges as the man who sits next him in the meeting, no favors being accorded to the one that are not freely given the other, and a practical Golden Rule policy is continuously upheld as a guiding star. There are no delegates or councillors necessary. The plainest and simplest of parliamentary rules, applicable in every organized assembly, are enforced. Even these have a degree of elasticity which is sufficiently mindful of the occasion of the gathering of a body of reputable professional gentlemen. There is always a strict attention given to the reading of papers and to the discussions, which are primarily for the advancement of scientific attainments.

At the last meeting The Lancet-Clinic was selected as the official organ of the Association, and will shortly complete the publication of the transactions of one of the largest meetings of the Association that has ever been held. The change from book to journal form of publication is in accord with a common demand of the times, and this is an up-to-date organization in all of its workings.

The thirty-first annual meeting will be held at Indianapolis, October 10, 11 and 12. Dr. Henry E. Tuley is the secretary, and has the programme arrangements well in hand. For particulars as to papers and discussions, write to him, 111 W. Kentucky Street, Louisville, Ky.

J. C. C.

VACATION.

Yours and mine. To spend it to the best advantage concerns us both. The time was, and that not long ago, when it was not fashionable or just the thing for plain common people—like doctors, for instance—to take a vacation, but the world do move and vacations are in demand. These periods of rest and recreation are voices from our inner consciousness calling aloud for help—help to tide us over our physical weak places.

There is just about so much work in the ordinary individual, and when this period is crowded there is a falling off in natural enthusiasm, and Nature gives a call which will be heard or there will be a giving way, or a break occurs which emphasizes the call.

For many, many years the writer thought himself proof against the vacation habit, and had scornful thoughts of the necessity of lettings-up for the sake of pleasure. A prime reason for his feelings in this relation was a recreation that he always found in his work, of which he was unduly fond. Even this in time wore smooth and needed sandpaper for more grit.

Casting a weather eye around the horizon, it fell upon Put-in-Bay Island, which is one of the Lake Erie group, and hied myself thither, accompanied by the editor's wife. In proof that the island was a satisfactory summer resort, each succeeding season has found us wending our way to the same island, which is said to be just far enough north to be free from mosquitoes and other pestiferous insect life. Every succeeding year adds to the attractions of the island, which contains about eighteen hundred acres and population of five to six hundred people, and is a great centre for grape-growing and orchard industries. These occupations are fruitful, and so attractive that many of the inhabitants do not leave their homes for a score or more of years, and the young men are likely to adopt a seafaring life, a reasonable number finding employment in the government service. The light-house, fish commission and harbor service, as well as the merchant marine, give employment to many hundred and even thousands of men.

The expansion of the navy constitutes an attractive feature for young men. The glitter of new uniforms and an opportunity to command is always wide open and catching to the eye. These conditions are always suggestive and are ever present in the lake ports and harbors.

Put-in-Bay Island has proved in the past to be most attractive to pleasure-seekers because the islanders have seen fit to make it so. The climate in all of the group is just the same. The freedom from bacilli and all insect and germ life makes unique and healthful sanitary conditions. The fishing in spring and fall is fine, and in the winter many thousands of pounds of lake fish are caught and made ready for a market that exists all through the season. The winters are cold in comparison with southern climes, but is never near so cold in any season as on the mainland; nor are the summers so hot. These equalizing conditions are due to the large body of lake water, which is comparatively warm. Fruit trees are rarely injured by cold winters, and the grapes are never hurt from effects of frost.

For the city denizen who must be at home for business reasons one, two or three times during the summer, the Erie islands are ideal. For social and society life there is enough for all, and in a sufficient variety to please the most fastidious. To rest and recreate a better location cannot be found, because one does not exist. There are hotels and hotels, from the most ordinary boarding-house to "The Victory." The latter is just about as good as can be found. It is a summer resort of the first class and first order. Our host continues with us, and a better cannot be found. Mr. Thomas A. McCreary knows how to run a hotel, and that is equal to knowing pretty near everything else.

Ballast, Middle Bass and Kelley's are large islands, the former with its famous club accommodations. There is another island of sixteen acres that is destined to have some celebrity. This is Green Island, which shares with Put-in-Bay in having a deposit of strontium on it. This is a mineral of some value, as it is used by manufacturers of pyrotechnics for making red and other colored fires. It has recently come in use as a therapeutic remedy for Bright's disease and kindred affections of the liver. Strontium is a rare mineral. The deposit referred to is the principal one found in the United States. A strontium spa is in Hotel Victory. It is an alkaline water, and useful for antiseptic purposes, and is the most powerful alkaline water now known. This is a broad statement, which the writer believes cannot be refuted.

So it is to Put-in-Bay the writer will go on or about the Fourth of July, where he will revel and bask in the sunshine and pure atmosphere of an island that is destitute of microbes and bacilli, with an abundance of good things to eat. For a period of one, two or three months' outing there is no better resort than the Erie islands.

J. C. C.

POLITICS AND SANITATION.

Cincinnati, no less than the rest of the country, has become exceedingly interested of late in the fight against graft that has agitated Philadelphia. With the interest has been a latent curiosity as to just what egregious errors would be made by the "reformers," for there has never yet existed in politics a reform set that did not, by an act or series of acts of folly, succeed in a short time in re-electing the old staff of so-called practical politicians. The first thing the reform party thinks about is a reduction in expenses, and it is but natural for the uneducated layman to turn his attention promptly to the department of health. He cannot possibly see what there is in the sanitary situation anyway to afford jobs to so many physicians. That is precisely what is on the tapis in Philadelphia. The reformers will, if possible, materially reduce the corps of assistants to the health department — assistant medical inspectors, as they are called. Several years ago the number of physicians engaged in this work numbered but twelve, and their duties mainly consisted in placarding the houses in which there had broken out cases of the various infectious diseases. With the succession of the new administration the number of assistant medical inspectors was increased to fifty, and they were required to frequently visit the public schools and deport such cases of infectious or contagious diseases as presented themselves. The salary of these gentlemen is nominally twelve hundred dollars a year, but required as they are to contribute to campaign funds and little blackmailing schemes of every description, this salary suffers a reduction of between 20 and 25 per cent. Two things must be done by the medical gentleman who wishes to serve his country through the medium of the Philadelphia health department—he must pass a civil service examination, a most wise provision, and one that has resulted in securing a splendid department for Philadelphia; and second, he must secure the endorsement of the leader of the ward in which he happens to reside. The last little scheme practically means that he must contribute to the ward committee, buy tickets for every political or quasi-political picnic or bunco game that happens to go the rounds, or the initiator of the scheme, who controls a vote or two, will trot off to the leader with the information that Doc. X "ain't acceptable to his constitooants."

All of which is but leading to the conclusion that the department of health, in its every phase and in every city, Cincinnati no less than Philadelphia, must eventally be taken out of politics, and it is only by the establishment of federal control with civil service enactments that this can be effectually done.

There is one other point that will occur to the reader in reviewing the situation in

Philadelphia. In the latter city, and, indeed, in all the large Eastern cities, the remuneration of the assistants to the various departments of health is much higher than it is in Cincinnati, and is in some degree commensurate with the services rendered. It is not because Cincinnati physicians are less skilled, have less to do (on the contrary) than their Eastern brothers, nor do we assume to say that it is because they in the East are compelled to assume a heavy burden of graft. There seems to be but one explanation—that the Board of Public Service is able to secure good men for practically nothing, and, like any business corporation, takes advantage of it. The victims writhe, know they are underpaid, but figure that if they don't take what they are allowed there are plenty others who will. Cincinnati can afford to pay her employés, no city in the country better, as witness the salaries received by every other force save the medical, and should be made by a little judicious pressure to do it.

EDITORIAL NOTES.

The faculty of the Medical College of Ohio, Medical Department of the University of Cincinnati, announce with great regret the retirement of Drs. P. S. Conner, Dean and Professor of Surgery, and T. A. Reamy, Professor of Gynecology. Dr. Fred Forchheimer has been elected Dean. While the severe illness of Professor Reamy some months ago presaged his retirement from active college work, the resignation of Professor Conner comes as a distinct surprise, and will be received with sorrow by the hundreds of practitioners throughout the country, who owe much of their success in life to his practical counsel and advice. Both gentlemen can feel that they have earned a respite by hard and faithful work well done. They will not be forgotten, for long after they will have departed to a longer and more peaceful rest their names will be ones to conjure with throughout the Ohio Valley.

A joint meeting of the Union and Delaware County Medical Society was held in the Park Hotel, Magnetic Springs, Ohio, Tuesday, June 6, 1905. A sumptuous free dinner was served by Manager Coppick, who is rapidly popularizing this beautiful resort. The following programme was carried out:

The Proctoscope and Colonscope in the Diagnosis and Treatment of Disease of the Large Intestine. Dr. Wells Teachnor, Columbus, O. Discussion.
The Diagnosis and Treatment of Stricture. Dr. Thomas Grant Youmans, Columbus, O. Discussion.
Heart Failure in Pneumonia. Dr. W. B. Hedges, Delaware, O. Discussion.
Clinic and Report of Cases.

Adams County Medical Society.—The society will meet on Wednesday, June 21, 1905, at the Court House, West Union, O. The programme is as follows:

MORNING SESSION—10:45 A.M.

Miscellaneous Business.
Gonorrhea. C. S. Corboy, Winchester, O. Discussion opened by T. C. Crawford, Dunkinsville, O.

AFTERNOON SESSION—1:30 P.M.

Annual Election of Officers.
President's Address. J. S. Berry, Peebles, O.
Veratrium Viride. R. A. Stephenson, Manchester, O. Discussion opened by Titus Stephenson, Cherry Fork, O.
Clinical Reports.

The thirty-fourth annual meeting of the American Medical Society for the Study of Inebriety and Alcohol will be held in the hall of the Atkinson School Building, Portland, Oregon, July 12 and 13, 1905, beginning at 9 A.M. The President's address, by Professor W. S. Hall, of the Northwestern University of Chicago, will be a review of the progress of the study of the action of alcohol during the year. The Committee on the Influence of Alcohol in Literature and History will present a report by its President, Dr. John Madden. The Committee on Heredity as a Cause in the Disease of Drug and Spirit Taking will report, and the Committee on Patent Medicines will also submit a statement of their work. Papers will be read by Drs. MacNicholl, Steward and others. The second session, Thursday, July 13, at 9 A.M., will be a memorial service to the memory of the late Dr. N. S. Davis, and a continuation of a similar meeting before the American Medical Association. Addresses are expected from Drs. Hall, Webster, Crothers, Kellogg, and Hollister, and remarks by Ex-Presidents Musser, Billings, Mathews and President McMurty of the American Medical Association. The public are cordially invited to be present.

THE City Solicitor has rendered an opinion to Health Officer Davis holding that where circumstances warrant for the protection of the public against contagion the health authorities can remove a person suffering from consumption from a private home to a quarantined hospital, inasmuch as the State Board of Health has declared that a contagious disease.

However, as there is not such immediate danger of contagion from this as from smallpox, no hasty action should be taken. The most thorough investigation and consideration must be given to a case before such action is taken and there must be no doubt about the immediate danger of contagion before it is done. The health officer must also exercise great care not to cause unneccssary hardship on a person or family in such a case.

THE Board of Public Service has directed that hereafter the Cincinnati Hospital will receive and care for insane patients until they can be examined and sent to special institutions.

REPORT of the Bureau of Infectious and Contagious Diseases for the week ending June 9, 1905:

Disease.	Cases.	Deaths.
Measles	6	0
Diphtheria	4	1
Scarlet Fever	22	3
Typhoid Fever	19	0
Phthisis Pulmonalis	11	16
Pertussis	15	0
Cerebro-spinal Meningitis	1	1

AT the Academy of Medicine of Cincinnati, Monday evening, June 19, Dr. Thad. A. Reamy will present a narrative entitled "Subjective Symptoms of La Grippe."

FOR SALE—In Western Ohio, a practice averaging about $2,000 per year. Present incumbent has to give up practice on account of ill health. Splendid opening for a young man. Particulars from B. A., this office.

Correspondence.

BI-INGUINAL CELIOTOMY.

CLEVELAND, O., June 5, 1905.

EDITOR OF THE LANCET-CLINIC:

In the issue of your journal for June 3 appears an article on bi-inguinal celiotomy, by Dr. Sigmar Stark, that is commendable in the main, but it contains two statements referring to me, of which the first invites comment, and the second a positive correction from me. Therefore, I respectfully request you to publish this statement in your next issue, if possible, or as soon as you can.

COMMENT AND CORRECTION.

As a prelimary explanation, I may state that this operation was called after my name, not by myself, but by Professor Kossmann, of Berlin, Germany, who was the second of three prominent German operators for whom I demonstrated this procedure on living subjects, at Hamburg, Berlin and Munich, respectively, in 1899. Professor Kossman read a paper on "Die Goldspohn-sche Operation" before the Berlin Medical Society, in April, 1904 (*Berliner Klinische Wochenschrift*, 1904, No. 25), when he had operated upon twenty with good satisfaction.

In 1893 I first combined a simple Alexander operation, that I had performed extensively theretofore, with bi-inguinal celiotomy, and the Bassini hernia technique in closing the wounds. Since then I have performed it extensively, with most nearly ideal results, upon a large number of complicated and some simple retroversions, of which 105 had been reported in detail two and a half years ago. Still the doctor claims that he was not aware of this, my work, until two years ago. It is very singular that he, a man evidently doing gynecological work, did not learn of any one of the seven rather comprehensive articles on this subject, that I had read mostly at national and international meetings, and that had then been published in four of the most prominent special and general medical journals in our country, with numerous abstracts in others. This is a very strange phenomenon.

Furthermore, as these journals, by what they contain, are largely the statutes which determine the rule of action in much of our most important work, the question is whether one who is so seriously unaware of what they contain has any right to do such work as this operation implies.

Again, the following statement made by the doctor in his closing discussion is totally wrong; he says: "Those of you who are familiar with the Goldspohn operation will remember that Goldspohn does not separately close the peritoneal cavity; he makes through-and-through sutures, including the peritoneal opening, in the Bassini sutures. Thus he can readily include the peritoneum in such a manner as to have it interposed in the line of suture, and consequently get faulty union—in fact, hardly union at all—a union that is predisposed to hernia." This is wholly incorrect; because I have always, even in doing the simple Alexander operation, fifteen years ago, practiced and taught closure of the wounds, in four tiers or layers of sutures. And my statements and explanations about the technique make that very clear; and the successive steps in the act of closing the wounds are shown by a succession of illustrations in the *American Journal of Obstetrics*, 1900, Vol. 41, No. 5. In the same journal, of 1902, Vol. 46, No. 5, page 655, I said as follows: "Each wound is closed carefully in four layers of sutures, and after the general plan of the Bassini hernia operation. The first layer consists of a purse-string suture, that catches the edge of the round ligament drawn out *ad maximum*, and the edges of the ring with the peritoneum. The second tier of sutures is the most important of all. In it the internal oblique and transversalis muscles are in part drawn down into the inguinal canal and sutured to the posterior surface of Poupart's ligament, and the round ligament is sandwiched in between these two, for a distance of four to six centimetres, by the same sutures. To do this the posterior surface of Poupart's ligament is made accessible for this suturing by turning the lower edge of the split wound in the aponeurosis of the external oblique muscle down, or down and forward, by means of a broad-mouthed pedicle forceps. A continuous double thread is used in this important layer, and before the round ligament itself is caught two or three good rolls of muscle, from the muscles mentioned, are drawn down over the closed ring and anchored laterally from the round ligament to Poupart's ligament. After that the round ligament is caught upon the needle in the four to six succeeding stitches, but never without a good roll of vascular and elastic muscle tissue being first hooked upon the needle to prevent excessive constriction of the ligament. At about every second stitch the needle is passed under the thread to prevent unfastening and to secure even tension. Thus three important things are secured in this layer of sutures: (1) Firm closure of the inguinal canal; (2) a broad attachment of the round ligament to an unyielding fixation point; (3) a guarantee against cutting off the necessary circulation in the ligament, which would certainly occur if the ligament were caught alone in the sutures. The third tier of sutures consists simply in coapting the edges of the aponeurosis, formerly split open. These fall together as they are liberated and demonstrate nicely that all structures which have a holding capacity have been preserved for use to guard againt hernia. For these three tiers of buried sutures catgut only is used. In the fourth layer the skin and subcutaneous fat are united by silkworm-gut, either continuously or interrupted."

I would expect a return of the displacement to follow too frequently after the manner of attaching the round ligament advocated by the doctor; whereas, in about two hundred of my cases of whom the subsequent history is sufficiently known to me there is one single return of displacement, making the use of a pessary advisable, but not a single hernia; but a weakness without protrusion exists on one side in one case that slid down an icy stairway on her buttocks, four weeks after operation.

Yours fraternally,

A. GOLDSPOHN.

34 Washington Street.

P. S. CONNER, M.D.
J. D. OLIVER, M.D.

Surgery.

H. J. WHITACRE, M.D.
H. A. INGALLS, M.D.

The Cause and Treatment of Pruritus Ani.

Wallis (*British Medical Journal*, May 13, 1905) gives some valuable information regarding those inveterate cases of pruritus ani, which go on year after year in spite of all sorts of treatment, the constant irritation occurring night after night, bringing in its train other symptoms due to want of sleep, such as inability to work, irritability, dyspepsia, loss of appetite and loss of weight, making life a veritable burden.

The local appearance of the skin affected by pruritus ani is quite typical, and should at once be recognized as pathognomonic of the trouble. Chronic irritation and constant scratching produce a chronic inflammation of the skin, resulting in a complete alteration in the character of the integument, which becomes largely infiltrated with fibrous tissue, loses elasticity, and becomes covered with dead and often sodden epithelium.

In over 90 per cent. of cases of pruritus ani the author has found a shallow ulcer situated between the two sphincters, more often in the posterior segment than in the anterior and generally near the dorsal mid-line. In some cases there is more than one ulcer, and then again in others there are various clefts which almost entirely surround the bowel. They occur at the embryologic line of fusion of proctodeum with the blind end of the gut. The lining membrane at this spot is poorly supplied with blood-vessels, abrasions are frequent and the constant action of the sphincter prevents healing. Irritating secretions which constantly exude from such chronic granulations cause the pruritus.

The treatment of such ulcers has, in the author's experience, regularly resulted in a cure of the pruritus. These patients are treated by moderate stretching of the sphincter under anesthetic, cauterization of the ulcer as well as the thickened skin, especially where the fissures or clefts exist. Vaseline is applied to the cauterized area and morphine suppositories are inserted. The patient is kept in bed for one week.

In all of these cases the irritation ceases either at once or after a few days, and if proper care is taken does not return.

In cases where the abrasion practically encircles the bowel it is better to dissect off the ring tissue of bowel. The important feature in many cases is the immediate cessation of the irritation after the cautery has been applied. H. J. W.

Actinomycosis.

Bevan (*Annals of Surgery*, May, 1905) gives a review of six cases recently treated, with conclusions.

Hecktoen's conclusions that the ray fungus is an organism belonging either to the simple moulds or constitutes a distinct group between moulds and bacteria are given.

The ray fungi are common in nature, being found in air, water and soil, and especially as a rust on various grains and grasses. It gains access to the body either through the mouth or pharynx mucosa, the respiratory tract, the alimentary tract, the skin, or it may be introduced by foreign bodies such as splinters of wood or bits of straw which enter the tissues. The fungus produces granulomatous swellings in the tissues, accompanied sooner or later by suppuration. The fungus is found in the pus, either as colonies or granules, which can be seen by the naked eye, or as thread-like bodies of the single organism to be seen on staining. Attention is to be called to the fact that the typical ray appearance of the colonies with the so-called sulphur-grain bodies is very frequently absent, and the author describes very minute fish-egg-like bodies which are gray or translucent in appearance. The author has found these much oftener than sulphur or yellow granules. Attention is likewise called to the fact that epithelial pearls in epithelioma may often confuse the diagnosis. There is a distinctive odor to the pus—an odor said to be earthy, especially that to be found in freshly turned soil. Much care should be taken in handling this material in the laboratory in order to avoid possible infection. While positive evidence of infection of the human being from eating the meat from infected cattle or from consuming milk from such cattle has not been obtained, it is nevertheless believed wise to exercise the greatest precautions against such contaminations.

Actinomycosis appears clinically under four different forms:

1. Head and neck actinomycosis, with infection from mouth and pharynx.
2. Chest actinomycosis through the respiratory tract.
3. Abdominal actinomycosis, with infection probably always through the alimentary canal, possibly through the genital tract of the female.
4. Actinomycosis of the skin.

The ray fungus can without doubt gain access to the tissues through a mucosa and leave at the point of entrance little or no discernible lesion. Primary actinomycotic lesions of the brain, liver and the spleen will be explained in this way.

The lesions formed are primarily granulation tumors. The process invades all tissues in the vicinity by continuity. Lymphatic invasion is unusual. About 50 per cent. of cases involve the head and neck, 15 to 20 per cent. the chest, 20 to 25 per cent. the abdomen, about 2 per cent. the skin.

The prognosis, formerly regarded as exceedingly bad, is very good when the focus can be reached. When the focus can be laid open and granulations scraped away with a sharp spoon, the surface touched with nitrate of silver stick or strong nitrate of silver solution, the wound packed with iodoform gauze, potassium iodide given internally, and the X-ray applied, a high percentage of the cases will recover. In lung and abdominal cases this cannot often be satisfactorily accomplished. The favorable action of the X-ray is believed to depend upon the liberation within the tissues by the X-ray of free nascent iodine.

Case 1 was an instance of actinomycosis of the appendix; operation with the treatment suggested above resulted in recovery.

Case 2, actinomycosis of the lung; improving under treatment.

Case 3, actinomycosis of the neck; cured completely.

Case 4, actinomycosis of the ischiorectal space and general pelvic region; death from pneumonia.

Case 5, actinomycotic mass in pelvis of girl, nineteen years of age; patient improving under treatment.

Case 6, of actinomycosis of the appendix of two years' standing; prognosis grave but patient is improving.

H. J. W.

Gonorrheal Arthritis.

Tranenthal (*Medical News*, May 13, 1905) presents a forcible review of this disease. Konig's division into four varieties is given:

1. The hydrops articuli.
2. Sero-fibrinous and catarrhal exudate.
3. Empyema of joints.
4. Phlegmon of the joints.

In the first variety there is a slight alteration in the structure of the synovial membrane; the joint is more or less distended and there is little tendency to ankylosis. In the second variety with sero-fibrinous and catarrhal exudate the changes are more marked, the synovial fluid contains flocculent masses, and there is a greater tendency to ankylosis. In empyema there is a mixed infection of pyogenic organisms as well as gonorrheal, and there is a puriform collection in the joints. In the fourth variety, the phlegmonous, there is greater destruction of joint structures, destruction of synovial membrane and a thickening of the other structures of the joint.

In a review of three thousand cases the following points were brought out: Males more frequently affected than females; 60 per cent. of 252 cases were between twenty and thirty years of age; it develops in very young children, however, and should always be considered in the diagnosis. A quotation from Kimbell is given: "Gonorrhea prevails among young children to the extent not fully appreciated among the medical profession at large, and has become a common epidemic in institutions when a number of children are placed together." Out of 600 children admitted to the Babies' Hospital in one year, 70 suffered from gonorrhea; 10 developed arthritis. In a series of 252 cases the knee was affected in 91; in 175 three or more joints were involved, showing that it is not to be regarded as a non-articular disease. The author has found that pain and tenderness in this affection seem more intense and continuous and of longer duration than any other form of arthritis, being more severe at night. The temperature varies from normal to 105°, but is most frequently between 99° and 102°. The author calls attention to the constitutional infection and cites two fatal cases. These were both cases of gonorrheal endocarditis.

In considering the treatment of gonorrheal arthritis the primary seat of infection in the urethra must be first treated in order to insure a quick result in the relief of the arthritis.

Foot and Ankle.—In gonorrheal arthritis of the foot and ankle if it is not recognized at once the ligaments are softened, the arch of the foot breaks down and the patient is hopelessly and permanently flat-footed. To properly treat this condition the foot should be placed in a plaster-of-paris boot running almost to the knee, supporting well the arch of the foot. The patient should not be allowed to put any weight upon it, as the main object is to maintain the relationship of the bones and prevent stretching of tendons and ligaments. The splint is split down the centre to allow local treatment. Local applications of blue ointment, heat and electricity are applied. A metal spring is used later to sustain the arch.

Bond regards pain and tenderness in the heels in walking as pathognomonic of gonorrheal arthritis.

Knee Joint.—In gonorrheal arthritis of the knee when an effusion is present the fluid may be drawn off by incision or by aspiration, or the method of the author used. In the author's method the knee is exposed to dry heat at 250° F. from twenty to thirty minutes. When removed Crede ointment is rubbed over the whole surface of the joint; following this the pulsating form of the direct continuous electricity, five milliamperes, for a period of from seven to ten minutes. The knee-joint is then covered with oil silk and the leg encased in a movable plaster-of-paris splint. After one week of this treatment massage and passive movement are added. This method has succeeded in joints ankylosed for from two months to three years.

A case of arthritis of the hip joint was treated by Buck's extension and the Thomas splint, and was cured after a period of nine months. The author suggests that in view of the fact that gonorrheal arthritis usually results from posterior infection of the urethra, the general use of irrigation as the common means of treating urethritis has possibly increased the number of cases of arthritis. The author believes that the use of rheumatic remedies and anti-rheumatic diet are injurious in gonorrheal arthritis. H. J. W.

Ophthalmology.

D. T. VAIL, M.D.

Gunshot Wound of the Orbit; Removal of Bullet with Conservation of Globe.

Posey, of Philadelphia (*Ophthalmic Record*, March, 1905), reports at length an interesting case of gunshot wound where the bullet lodged in the orbit. There was hemorrhage within the globe from concussion and vision was reduced to bare perception of light. The X-ray plate showed the bullet to lie behind the globe near the apex of the orbit. Some time after the acute symptoms subsided it was decided to make an attempt to extract the foreign body, as its presence was causing considerable irritation. The tendon of the internal rectus muscle was divided and the finger inserted behind the globe. The optic nerve could be plainly felt and a hard mass noticed on the floor of the orbit. The inferior rectus was next divided in order to give more room for exploration, when the bullet was found and extracted with difficulty. The severed tissues were sutured and the case went on to healing. The eyeball was saved, but the motility was permanently impaired and the eye rendered strabismic. The vision was permanently injured, not as the result of the operation, but as the result of the severe concussion and retinal detachment due to the original traumatism.

The case is interesting because it proves that when the foreign body is behind the globe and the accurate diagnosis as to the exact location determined by the X-ray, an attempt to extract it through an opening alongside the globe holds out a fair promise of success.

The Question of Iridectomy in Glaucoma Simplex.

Cheney, of Boston, writes concerning the value of iridectomy in this form of glaucoma, and concludes that while on theoretical grounds the operation is indicated (yet when we consider that absolute and permanent blindness often quickly follows the operation, and the fact that the disease left alone very slowly progresses, permitting the patient to enjoy good vision for a long while), we are led to hesitate about operation.

His ideas are well founded, but he should lay greater stress on the importance of establishing an accurate diagnosis, for if the disease is not the *simple chronic* form, with *no increase of tension*, but the chronic *recurrent* type, with *raised* tension, an iridectomy is positively indicated, and will usually yield satisfactory results. Cheney does not deny this, for he states: "It is of unquestionable benefit in acute and chronic congestive glaucoma in reducing the tension."

Some Remarks on Molluscum Contagiosum.

Oppenheimer, of Berlin (*Ophthalmology*, April, 1905), has made careful observations in four cases of this disease manifested about the eyes, and deduces the following:

1. The disease about the eyes is rare, in spite of the teachings of the dermatologists that the eyelids is the seat of predilection. Epidemics have been described by Mittendorf, but the author is skeptical on this point, since no one who came in contact with any of his cases showed any signs of the disease.

2. As to size: The teaching that the growth is the size of a pea is erroneous, as in none of his cases was the size larger than a pin's head, being, in fact, usually smaller. They all present a small central pit, which is generally covered by thin tissue. Pressure by small forceps causes a soft lump to exhude from each tumor, most of them clustered around the region of the tear-sac. He emptied their contents in the manner suggested and applied xeroform, which proved successful in bringing about a cure.

Breech-Pin in Orbit Three Years.

Ledbetter, of Birmingham (*Ophthalmic Record*, March, 1905), had a case where the history pointed to the presence of a foreign body in the orbit. The patient stated that three years before, while hunting, his gun exploded and the breech-pin was missing, also his left eye. As a foreign body could be felt through the healed tissues of the orbit it was sought after and found to be a piece of glass five-eighths of an inch long and three-eighths of an inch thick. The patient stated in explanation that that was another story. He had thrown a bottle at a dog a few months before this and felt a piece of flying glass strike the eye, but did not think it had entered the tissues. Since healing did not occur further examination for a cause revealed a metallic substance deep in the orbit firmly imbedded. Under chloroform it was extracted and proved to be the long-lost breech-pin. It measured one and a quarter inches in length and seven-eighths of an inch in diameter. During the three years it had lain in the orbit it has caused no special irritation. The left eyeball had been entirely destroyed by the accident.

Conjunctivitis Petrificans.

Posey, of Philadelphia (*Annals of Ophthalmology*, April, 1905), reports an interesting case of this rare disease, being, in fact, the only authentic case of this kind reported by English writers. The disease has been carefully studied by Leber. Posey's case makes the fifth on record.

According to Leber, "conjunctivitis petrificans is characterized by the appearance of a number of irregular white opaque spots, which are but slightly elevated above the surface and are covered with epithelium. . . These spots are (later on) seen to coalesce, the deeper tissues of the conjunctiva become involved, and large chalk-like areas appear in the lid, which gives rise to corneal ulceration. These whitish masses become hard as stone, with an irregular surface, from which little fragments break off."

Leber found the deposits to consist of lime, either in the form of carbonates, phosphates or crystals. The treatment consists in removing the plaques surgically, followed by the use of mild antiseptic remedies. Internal medication is useless.

On Peritomy for Diffuse Corneitis and Other Affections of the Cornea.

Simeon Snell, of Edinboro (*Ophthalmology*, April, 1905), has performed the operation in over two hundred cases of corneal disease; his largest experience has been in cases of diffuse corneitis (interstitial keratitis), where he has found the operation of particular value.

"When performed in the earliest stages it in some instances seems almost to abort the disease, while in others it undoubtedly materially shortens the long period that such cases usually last."

He has seen no evil effects following the operation, and recommends complete peritomy in preference to the partial.

He uses cocaine thoroughly, followed by an instillation of adrenalin solution. The speculum is used, the patient directed to look downwards, the conjunctiva a short distance from the upper edge of cornea is raised by means of forceps and snipped by scissors; this allows the entrance of one blade of the scissors under the conjunctiva, and in this way a circular incision is carried around the cornea. Then the small flap of conjunctiva attached to the limbus is carefully cut away by means of the scissors.

Book Reviews.

The Surgery of the Heart and Lungs. A history and résumé of surgical conditions found therein, and experimental and clinical research in man and lower animals. With reference to pneumonotomy, pneumonectomy and bronchotomy, and cardiotomy and cardiarrhaphy. By B. Merrell Ricketts, Ph. B., M. D., member American Medical Association, Western Surgical and Gynecological Association, International Medical Congress, Mississippi Valley Medical Association, Cincinnati Academy of Medicine, Ohio State Medical Association, American Proctologic Society, Honorary Member of Medical Society of the State of New York, St. Louis Medical Society, Fellow of the New York State Medical Association, and member Societie International de Chirurgie. The Grafton Press, New York, MCMIV.

Intuitively the writer inquires of himself the why and possibility of a portly tome of the nature of the one under consideration, only to discover an abundant response in a conning of the leaves as the pages are turned. The motif is at once solved when told of pulmonary troubles requiring surgical intervention, and the inquiry and study of his books for any suggestion or light on the subject then in hand. In his delving the author was unable to find anything more than scraps in the journals, making reference to rare cases, all of which stimulated him to seek further, and he began to collate and collate, until he had practically gathered the world's histories of the surgery of the lungs and heart.

The compilations and histories are now for the first time given to the medical profession. The author, as he anticipated, bumped up against some diverse opinions among surgeons as to advisability of when, where and how to operate. To determine these questions to his own satisfaction he made a series of observations and experiments on dogs and other inferior animals, from which deductions were drawn.

This is not a history or system of surgery, only a segment of the general subject treated by the author in a lucid manner, in which he makes some valuable suggestions, which, as a journalist, are most heartily endorsed by the writer. He says: "Too many writers, unfortunately, choose obscure titles for their works. Then, too, some writings have not appeared in the kind of publications in which one would naturally expect to find them. Some re-

reports of interest are perhaps hidden away in the proceedings of societies and clinical reports of hospitals, and have never reached the ordinary channels of publicity." This is an all-important question. Some men, after much experience, learn the importance of having a place in a well-selected journal, and from first to last adhere to its pages. Book authors soon learn where to look for any special writer's products, which is very important for all concerned.

Statistics is usually voted to be very dry reading. Not so with the work by our townsman, Dr. B. M. Ricketts, who has actually made his book one of fascination from beginning to end. It is a marvelous monument, unconsciously erected, in memory of the indefatigable industry of the author. This will be a book of reference for all time, and as the years come and go will be more and more sought and appreciated for its historical as well as intrinsic value.

Dr. Ricketts is to be congratulated on a product of his pen that is neither common nor ordinary. J. C. C.

Books Received.

We will be glad to receive such new publications as may be sent us, and will promptly acknowledge receipt of same in this column; however, with the understanding that we do not consider ourselves bound to review any publication whatever.

Eighteenth Annual Report of the State Board of Health of the State of Ohio for the year ending December 31, 1903.

Publications of the Massachusetts General Hospital, Boston. The Biology of the Micro-organism of Actinomycosis. By James Homer Wright, M.D., Director of the Clinico-Pathological Laboratory. The Gross Prize Essay for 1905.

Practical Problems of Diet and Nutrition. By Max Einhorn, M.D., Professor of Medicine at the New York Post-Graduate Medical School and Hospital. New York: William Wood & Co., 1905

Tumors of the Cerebellum. By Charles K. Mills, Charles H. Frazier, George E. De-Schweinitz, T. H. Weisenburg, Edward Lodholz. Reprinted from the *New York Medical Journal and Philadelphia Medical Journal.* New York: A. R. Elliott Publishing Co., 66 West Broadway, 1905.

Urine and Feces in Diagnosis. By Otto Hensel, Ph.G., M.D., and Richard Weil, A.M., M.D., in Collaboration with Smith Ely Jelliffe, M.D., Ph.D. Illustrated with 116 engravings and 10 colored plates. Philadelphia and New York: Lea Bros. & Co., 1905.

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CONTRIBUTION TO THE PATHOLOGY OF EXTERNAL PILES.*

BY LOUIS J. KROUSE, M.D.,
CINCINNATI,
Professor of Proctology in the Cincinnati Polyclinic and Post-Graduate School.

Since proctology has become a recognized specialty, more advances have been made in this branch than had been made in the preceding half of a century. While original investigations are still being carried out along new lines, many of the older theories and statements, which have been handed down to us by the older writers, have, without recent investigations, been accepted and been copied by writers of the present day. The pathology of sanguineous piles belongs to this class.

External hemorrhoids are tumors situated in the region of the anus, outside of the external sphincter ani muscle. They are usually divided into two distinct varieties, the acute or sanguineous and the chronic or connective tissue variety. It is only to the sanguineous or thrombotic variety that I wish to call your attention.

These tumors are usually found single, are of globular shape, tense in outline, bluish in color, and very sensitive to the touch, their size varying from a pin's head to that of a walnut.

Such diverse opinions have been expressed by the majority of writers on the pathology of this affection, that a brief résumé of the various statements made by these writers would not only be of interest, but also instructive.

Bodenhammer[1] states: "In the primary stage of such tumors, and before the extravasated blood in the cellular membrane had become organized, I have frequently incised them and scooped out their contents and found that they consisted of coagulated blood only." Further on he says: "They are scarcely ever varicose, but consist almost entirely of the cellular tissue and thin integument of the anal region, into which blood or serum has been extravasated."

W. P. Agnew[2] says that external hemorrhoids "make their appearance primarily in two ways, the one by a simple circumscribed dilatation of the vessel, the other by a condition in which the dilatation has been followed by a rupture of the vessel, allowing extravasation with infiltration. The distended or ruptured vessel, in recent cases, is often plainly visible through a translucent skin."

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* Read before the American Proctologic Society, at Pittsburg, Pa., May 5 and 6, 1905.

Howslip[3] states that "the sanguineous tumor, on the contrary, is the direct consequence of extravasation of blood."

Mathews[4] agrees with him, and says: "I am sure that, if the proper dissections are made, these clots of blood will usually be found outside of the vein wall, not enclosed in a cyst, but lying in the tissue proper. I believe then, that a rupture of the vein wall takes place in many of these cases at least, which constitute this variety of external hemorrhoids."

Ashton[5] coincides with those just mentioned, and says: "I have never succeeded in tracing anything like the tunics of a vein; my investigations and dissections justify me in stating that they consist of the thin integument and cellular tissue of the anal region into which blood has been extravasated; generally the blood is encysted in a central cavity, having a smooth glistening surface."

Da Costa[6] says: "When the vein ruptures, a livid soft enlargement appears near the edge of the anus, accompanied by decided pain and other evidences of inflammation."

Nancrede[7] agrees with the authors just quoted, and states that "during forced defecation they are apt to become much distended and at times they give way; blood is extravasated into the surrounding connective tissue." In the foot note he modifies his statement by saying: "In some cases the clot may occupy a dilated pouch and not lie in the connective tissue at all."

Mayo[8] expresses the same opinion—"the bulk of each tumor after a time is often found to be made up either of lymph effused into the adjacent tissue, or of a clot of extravasated blood."

Kelsey[9] has nothing new to add, and says: "This is simply an extravasation of venous blood into the delicate subcutaneous connective tissue of the anus." Further on he says: "This is extravasated venous blood from a previously weakened and dilated vein, which has ruptured," and then adds that "those who have once been troubled with this form of hemorrhoids are very liable to repeated attacks. The veins are delicate and feebly supported, and a little unusual strain upon them is sufficient to produce an extravasation."

Andrews[10] says that "sometimes clots of blood form in the veins. At other times the veins burst, forming globular clots in the connective tissue outside the vessels, and these, like all other lumps in this region, are generally termed piles."

Bryant[11] says: "External piles are made up of the loose fold of skin that surround the anus; or a varicose, inflamed or ruptured vein."

Cripps[12] says that "should the little swelling be cut into, it will be found to consist of a drop or two of coagulated blood, doubtless arising from the subcutaneous rupture of a small vein." Further on he says: "Apart from the little tumors which result from this blood extravasation, I feel confident that occasionally coagulation takes place within a dilated venous pouch."

Van Buren[13] remarks that "this variety of tumor from rupture of a venous pouch is rarely encountered in this form within the cavity. It is easy to conceive how one of these nodules thus dilated might give way and its contents be extravasated in the surrounding connective tissue."

Wright[14] states that "this cyst may be formed out of the dilated walls of the vein. Or, what is probably more often true, it consists of an adventitious cyst, which is composed, in the same manner, of a layer of plastic material which has been thrown out around a quantity of blood that has been extravasated into the areolar tissue in consequence of the rupture of the walls of the vein."

Tuttle[15] claims that "they are produced by the clotting of blood in a varicose vein, or more generally by the rupture of a vessel and extravasation of blood into the cellular tissue surrounding it."

Henry Smith[16] says: "If, however, they become attacked with inflammation, the tumor increases much in size, the blood in the vein becomes coagulated, and not unfrequently the vessel gives way, allowing the coagulated blood to escape into the surrounding cellular tissue, where it will form a distinct sheath for itself. . . But in cutting into an external pile . . . there will be found either a vein considerably dilated and containing semi-coagulated blood, or the blood will have escaped from the vessel, and have become either extravasated into the surrounding cellular tissue, or have formed for itself distinct cellular sheaths."

On the other hand, Ball[17] says positively: "I have never seen a case of external piles which I believe to be due to extravasation, and in a number of cases I have been able to prove that the tumor was a thrombosed vein."

Allingham[18] states that rectal veins are similar to veins in any other part of the body, and in like manner may become varicose and inflamed. . . . "A clotting of blood in the vein may take place, giving rise to simple thrombosis, hence the tumor. . . . Again, inflammation may start around the vein, and in its coat occasioning periphlebitis, or phlebitis. In rarer cases . . . a rectal vein may become weak at one point and cause a small aneurism of the vein in which coagulated blood is contained."

Esmarch[19] remarks: "As a result of the stasis various changes occur in the structure of the so-called hemorrhoidal tumors, round tumors, which are composed of dilated venous sacs."

Curling[20] says that "in the early stage, before the integuments have become thickened, there is a softish elevation of the skin, being nothing more than swelling from a varicose vein. At a later period a projecting fold of skin encloses a vein, more or less dilated, and filled with a dark coagulum."

Gant[21] states that "thrombotic or venous piles consist of elevations of the skin near the anal margin, oval in form, and of a livid color, or slightly tinged with blue, filled with a hard clot of blood inclosed in a sac." Further on he says: "We use a sharp-pointed bistoury to make the incision, and often apply the Paquelin cautery to the rent in the vessel."

These tumors are situated within a radius of about an inch from the verge of the anus, and are connected with the external hemorrhoidal vein.

Let us study the anatomy of the parts. We notice that the skin covering the anal region is very pliable and thin; that in the quiescent state it is gathered into numerous longitudinal folds radiating from the anus, which disappear whenever the orifice is distended. Beneath the skin and in close union with it we come across a muscle of the unstriped variety, which originates within the anus and is the continuation of the longitudinal muscular fibres of the large intestines. This muscle, in its exit through the anus, passes between the fibres of the external and internal sphincter ani muscles, before its insertion into the skin of the anus, and is known as the corrugator cutis ani muscle. Directly beneath this muscle, and closely united to it, we come across the external sphincter ani muscle. The muscular fibres of these two muscles, like the fibres of the external and internal abdominal oblique, cross each other at right angles, thus strengthening this portion of the body.

The veins of the anus, on account of the physiological function of the parts, are tortuous. They ramify between the various structures just mentioned, thus receiving additional support from them, and they anastomose with the veins of the rectum. As these veins are identical in structure to the veins located in other parts of the body, they are subject to the same diseases; inflammation may attack them, thrombosis may form, occlusion of the lumen may follow and rupture may take place.

That these hemorrhoidal tumors are connected with the veins, everyone agrees; but authorities disagree regarding the location of the clot, whether it is within the vessel or in the connective tissue outside of the vein.

Since the veins of this part of the body are similar in structure to other veins, why is it that extravasation of blood, with the formation of a clot of a globular shape, should always occur here and not elsewhere? Some may claim that perhaps the cause of this anomaly can be found in the connective tissue surrounding the vein. If this were so, then artificial rupture of the blood-vessels should produce similar results. In forcible dilatation of the anus, as a preliminary step in almost all operations performed on the rectum, rupture of the vessels with extravasation of blood does occur, but the mass never assumes a globular shape, as we meet it in sanguineous piles. This fact speaks strongly in favor of some other cause and against the theory that rupture of the venous radical takes place in the production of the blood clot.

The hemorrhoidal veins, like the veins situated in other parts of the body, which are more or less subject to continuou pressure, frequently undergo alterations. These alterations we are familiar with as occurring in the spermatic vein of the cord and in the long saphenous vein of the leg. It is simply a varicosity of the vein.

Virchow[22] says that "hemorrhoids in their commencement are only varicosities of the hemorrhoidal veins."

Quènu[23] comes to the conclusion that "the primary cause of hemorrhoidal disease begins in the venous walls; an endophlebitis takes place which extends inte the capillaries, and which is usually accompanied by a chronic inflammation of the perivascular tissue and a dilatation of the venous radicals."

At a later stage of these varicosities, "one observes an almost complete disappearance of the middle or muscular coat of the vessel, leaving the walls of the venous vessel almost completely composed of pure connective tissue."[24]

These pathological alterations in the veins have been arranged into three different stages, depending upon the changes in the walls of the vessel. In the first degree, the lumen of the vein is simply enlarged and the walls are somewhat thickened, but the vein is not tortuous. In the second degree, the veins are uniformly dilated, with thickening of the walls, which are hard, solid, and resemble macroscopically the appearance of arteries. In the third degree the, venous walls have a uniform thickness, with thinning of the walls at certain points, which may lead to fusiform or globular dilatation.

This is, in brief, the pathological changes which may occur in the hemorrhoidal vein. Now the question comes up, does the clot lie in the aneurismal dilatation of the vein, or does it lie outside of the vein in the connective tissue? I have been paying a good deal of attention to the location of the clot, which I have invariably found enclosed in a sac, and which can, in recent cases, be easily shelled out. Now this sac must originate from one of two sources: either it is the attenuated wall of the venous radical, or it is a new formation. If it is a new formation, then from what does it originate? Bilroth[25] says that "the capsule which encloses the old blood clot is developed from the organization of the outer layer of the clot, as well as from the surrounding tissue." In recent cases the sac, as well as the neighboring tissue, is discolored with the coloring matter of the blood.[26]

In my dissections and operations on these tumors I have never found the clot lying free in the connective tissue; it has always appeared to me to be enclosed in an organized tissue, even as early as twenty-four hours after its first appearance. The capsule, as well as the surrounding tissue, were never stained with the coloring matter of the blood.

In examining the walls of the sac I invariably remove the top of the sac with a curved scissors, after having transfixed the tumor with a sharp-pointed tenaculum. This portion of the sac was then teased and examined under the microscope, with the result of separating the sac wall into two layers, both of organized tissue. One layer was composed of unstriped muscular fibres, having hematoidin crystals now and then on its surface; the other layer was composed of yellow and white elastic fibrous tissue. There is nothing in this region that possesses these anatomical structures, unless it be a blood-vessel. Had the wall of the sac been of a new formation we could not have separated the cyst wall into layers, and the microscopic appearance would have been different. Instead of unstriped muscular fibres and yellow elastic tissue composing the walls, we would have had white fibrous or scar tissue.

From my observation and investigations I come to the following conclusions:

First, that the walls of the hemorrhoidal veins must undergo some pathological alterations before an external hemorrhoid can develop.

Second, that these pathological changes being present, any undue pressure may cause an aneurismal dilatation of the vein.

Third, that the internal coat of the vessel being altered, there is more tendency for coagulation of blood with the formation of a clot.

Fourth, that the sexual activity of an individual increases the intra-venous pressure and favors the development of the sanguineous tumor. It is therefore a disease of adult life.

Fifth, that the clot is always found in the diseased vessel and never in the connective tissue outside of the vessel.

BIBLIOGRAPHY.

1. BODENHAMER: "Treatise on Hemorrhoidal Disease," p. 68–71.

2. W. P. Agnew: "Diagnosis and Treatment of Hemorrhoids and Other Non-Malignant Rectal Diseases," p. 17, second edition.
3. Howslip: "Diseases of Lower Intestines and Anus," p. 173.
4. Mathews: "Diseases of the Rectum, Anus and Sigmoid Flexure, p. 96, 1893.
5. Ashton: "On Diseases of the Rectum," p. 76, fourth edition.
6. Da Costa: "Modern Surgery," p. 714.
7. Nancrede: "Wood's Reference Hand-Book of Medical Sciences," p. 473, vol. iii.
8. Mayo: "Injuries and Diseases of the Rectum," p 59.
9. Kelsey: "Diseases of the Rectum and the Anus," p. 157, fourth edition.
10. Andrews: "Rectal and Anal Surgery," p. 22.
11. Bryant: "Practice of Surgery," p. 353.
12. Cripps: "Diseases of the Rectum and Anus," p. 60, edition 1884.
13 Van Buren: "Lectures on Diseases of the Rectum," p. 13–14, edition 1881.
14. Wright: "Diseases of the Rectum," p. 55.
15. Tuttle: "Diseases of the Anus, Rectum and Pelvic Colon," p. 594.
16. Henry Smith: "Holmes' System of Surgery," Vol. ii, p. 627.
17. Ball: "The Rectum and Anus," p. 226, edition 1887.
18. Allingham: "On Diseases of the Rectum," p. 83, fifth edition.
19. Esmarch: "Krankheiten des Mastdarm und des Afters," p. 171.
20. Curling: "Observations on Rectum and Anus," p. 18, 1851.
21. Gant. "Diseases of Rectum and Anus," p. 187, edition 1896.
22. Virchow: "Handbuch der Pathologie und Therapie," p. 109.
23. Quenu: "Beitrag zur Klinische Chirurgie," Bd. x, 19, p. 97.
24. Traite de Chirurgie, Tome 2, p. 213.
25. Bilroth: "Pathologie und Therapie," p. 159.
26. Rindfleisch: "Lehrbuch der Pathologischen Gewebelehre," p. 595.

MESENTERIC CYSTS.*

BY O. G. PFAFF, M.D.,
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Tumors of the mesentery, whether solid or cystic, are comparatively rare, and every case ought to be recorded. Surgical authors, as a rule, say very little on the subject, and some do not even refer to it. The solid growths are less frequently encountered than the cysts, and it is the latter to which I wish to call attention, and shall report a case from my records, together with the specimen, which I removed by operation.

Since 1507, when Benevieni made the first record of a specimen (discovered post-mortem), mesenteric cysts have been occasionally reported. From the researches of Moynahan, Treves, Dowd and others, we are enabled to refer to 147 cases, including the one here recorded.

They are found in both sexes and at all periods of life, cases reported so far varying from four to eighty years of age. The growths range in size from the small cyst discovered on the post-mortem table to the enormous tumors containing gallons of fluid. It is probable that many of these tumors have been overlooked, and that others have been treated without recognition. Possibly of those large abdominal cysts, with extensive adhesions and undetermined relationships in which drainage was employed, some were mesenteric.

While most of the reported cases were discovered post-mortem, many others were treated surgically, frequently having been diagnosed by those who reported them as "ovarian tumor," "pancreatic cyst," "wandering spleen," or "floating kidney." Although these growths are not common, we must expect to encounter them occasionally, and to take this fact into account in developing the diagnosis. The surprising thing is that the mesentery is not more prolific as a cyst-bearing region, when we consider that between these two folds of peritoneum are to be found connective tissue, fat, lymphatic vessels and glands, blood-vessels and muscular fibres; also certain remnants of embryonic life from the Müllerian and Wolffian bodies and ducts, and of the Vitelline duct.

Some elaborate classifications of mesenteric cysts have been formulated by writers on the subject, but that of Moynahan has been the most generally received, although the later researches of Dowd point to a simpler and more significant system. Moynahan describes (1) serous cysts; (2) chyle cysts; (3) hydatid cysts; (4) blood cysts; (5) dermoid cysts; (6) cystic malignant disease—cystic sarcoma. Cysts arising elsewhere and becoming mesenteric by extension are excluded.

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* Read before the Ohio Valley Medical Association, Evansville, Ind., November 9–10 1094.

It appears that the classification may not rest securely upon the character of the cyst wall, as shown by the microscope. This is indicated in the statement of Sutton, that small parovarian cysts are lined with columnar epithelium, which is ciliated in some specimens, in large cysts it becomes stratified, and in very big cysts it atrophies. Therefore, it is not improbable that in certain mesenteric cysts, with fibrous walls and no epithelium, there has been a time when epithelial lining existed and that atrophy of this structure has occurred. Mesenteric cysts *with* epithelial lining have been described by McDonald, Kuster and others.

Dermoid cysts of the mesentery are relatively common, Mayer reporting one as large as an adult head, and Sir Spencer Wells another of similar size.

It is pointed out that segmentation from various organs is not uncommon. The well-known instances in which fragments are separated from the main structure during its development and lodging in some accesssible haven, develops into an accessory or supernumerary organ, as spleen, kidney, ovary, etc., suggest the probable origin of many if not all the true mesenteric cysts, not including the hydatids nor the cystic malignant growths.

Dowd explains the occurrence of blood cysts on the theory that they are simply pre-formed cysts into the cavities of which hemorrhage has taken place. Likewise the chylous cysts indicate that chyle has been effused into the cavities of other preexisting cysts.

Demon reports a case in which a multilocular cyst exhibited one chamber filled with blood while another contained chylous liquid.

Although the pathology of mesenteric cysts is, as yet, unsettled, it may be safely assumed that the time is not far distant when we shall have all the facts placed before us.

Dowd's conclusion is probably the best presentation of the probable facts of the matter as they appear at this time. He believes that it is altogether within the bounds of probability that a separation should take place from time to time from the Wolffian body, or the germinal epithelium at an early time in embryonic life, and that it is not strange to have such portions carried into the mesentery, or mesocolon, in the course of their development, and there form cysts.

Drs. Fehleisen and Nathan, of San Francisco, removed a large mutilocular cyst from the folds of the mesentery. The walls were largely composed of muscular fibres, strongly suggesting in their size and shape the muscular arrangement of the small intestine. It was considered a teratoma, and is in apparent support of Dowd's position.

While the symptoms and clinical history vary greatly in different cases, there are certain resemblances which have been so frequently noticed as to acquire practical value in diagnosis. Most of the cases carefully studied have exhibited repeated attacks of severe abdominal pain, which is intensified in walking; disturbances of digestion, which are sometimes excessive; nausea is commonly but not invariably present. One peculiar and very interesting clinical feature relates to the history of the development of the tumor itself. In numerous instances it was first noticed after a fall or some unusually severe exertion.

Dr. O'Connor, of Buenos Ayres, treated a man for over two years, during which time he suffered from serious indigestion and abdominal pain. One day he alighted with some violence from a moving streetcar and was seized immediately with severe abdominal pain and noticed a lump below and to the right of the umbilicus. Dr. O'Connor examined him on the same day and describes the tumor as about the size of a cocoanut, well defined and tense; fluctuation was obtained, and apparently great mobility, but this could not be thoroughly tested on account of the great soreness present. The man was operated and the tumor found to be a cyst of the mesentery, which was treated by drainage; it contained chyle.

Dr. Rasch, of Tottenham, England, also makes a report which suggests some relationship between violent exertion and the first appearance of the tumor. A girl, twenty-one years of age, lifted a heavy trunk, and some days after was seized with severe abdominal pain; three weeks later she went to the hospital, when a large, round, elastic swelling was discovered in the middle of the abdomen, extending to the left; no diagnosis was made; operation showed cyst of the mesentery containing chyle; the treatment was drainage; a portion of the cyst wall was excised and under the microscope was found devoid of epithelial lining.

Dr. Beach, of the Massachusetts General Hospital, reports a case characterized by soreness and pain in epigastrium after eating; eructations of gas; constipation; appetite fair; four or five months later, *during an attack of colic and vomiting*, a movable lump was noticed in the abdomen; the tumor could be moved from just above the symphysis pubes to a position corresponding to the right kidney; diagnosis not made, but floating kidney suspected; operation demonstrated chylous cyst of the mesentery; the cyst wall showed no epithelium.

Dr. Parker Syms enucleated a mesenteric cyst, containing fourteen ounces of pure chyle, from a young man nineteen years of age. He had suffered pain in the abdomen *for two years*, when a well-defined, elastic, freely movable tumor was first noticed in the median line.

Suppuration of a mesenteric cyst may occur, as was illustrated in the case reported by Dr. Ludlum, of Chicago. The tumor was first noticed a few days before confinement, and was not removed until two months later, when it was found that suppuration within the cyst had taken place. In one instance a mesenteric cyst filled the sac of an irreducible inguinal hernia, surely a rare complication.

The case which came into my hands through the courtesy of Dr. Minnick, of Somerset, Ind., was of intense interest to me, and to the other gentlemen who were associated with me in the diagnosis and operation. As I know of no later case I offer this as the most recent contribution to an interesting subject. I am indebted to Dr. Bernays Kennedy for the following comprehensive report:

February 24, 1904. Miss G. N., Somerset, Ind., aged fifteen years. Weight, seventy-four pounds. (No loss.) American. Born: Indiana. Previous residences: None. Single.

Family history: A sister probably has Pott's disease.

Personal history and previous illnesses: Chicken-pox and whooping-cough in childhood. Always well until present trouble. Appetite fair. Complains of fullness after eating, but no nausea, vomiting nor pain. Menstruation: Never menstruated. Discharge: None. Defecation: Usually regular. Constipated occasionally, followed by abdominal cramps. No symptoms of obstruction. During the past year has had frequent diarrhea, stools contained mucus. Micturition: Normal.

Present illness: Eighteen months ago, while in good health and free of pain, patient discovered tumor about two-thirds present size in left inguinal region. The tumor was not tender and very freely movable; the patient moved it about the abdomen herself. At times she could not find the tumor herself, but the attending physician could always find it and would bring it up and out of the pelvis, after which change of position of the tumor she often experienced some relief from the pain. A few weeks after the discovery of the tumor the patient was seized with very severe abdominal cramps, beginning in the left lower quadrant and extending over the whole abdomen. These attacks were usually preceded by one or two days of gradually increasing soreness in left inguinal region, extending upward into left lumbar region. They occurred irregularly from a few days to four weeks, and lasted from a few hours to one or two days, occasionally requiring morphine for relief. The attacks of abdominal pain were not accompanied by nausea, vomiting, nor any symptoms except severe backache. They were followed by general abdominal soreness for one or two days, after which the patient was free of pain and felt perfectly well. No chills nor increased temperature have been noted. The last attack occurred four weeks ago. The tumor was gradually increased in size about one-third since it was first noticed. Chief complaint: Attacks at irregular intervals of severe abdominal pain beginning in left lower quadrant and extending over whole abdomen.

Physical examination: Nutritition fair. The patient has a peculiar color difficult to describe. The mucous membranes are fairly well colored, but the face has an unhealthy pallor with a slight sallowness. Tongue clean. Pulse and respiration normal. Lungs, normal; heart, normal; liver, normal; spleen, normal. Abdomen: Palpation of the abdomen reveals a tumor about the size of an orange, rather firm, yet having the consistency and giving the impression of a cyst and of such extreme mobility as to leave in doubt its original site or normal resting-place. It can be moved without causing pain into any part of the abdomen or pelvis. It is not adherent to any of the abdominal or pelvic organs. There is no tenderness. The tumor is usually found below the umbilicus, sometimes in the pelvis. The most striking characteristic is the very great and extraordinary mobility. The percussion note is flat, with surrounding zone of tympany. The attachment of the tumor cannot be defined. This seems to be all that can be directly learned about it.

Internal vaginal examination: Negative. The uterus is of normal size. The ovaries cannot be palpated. No pedicle nor other connection with the tumor can be traced from the pelvic organs. Kidneys cannot be palpated. Urine, acid, amber, clear with slight mucous precipitate, sp. gr. 1023, no albumin, no sugar, microscopical examination negative. Blood, hemoglobin 80 per cent. Red blood cells 4,064,000. White blood cells 6,000. Cells of normal size and shape.

Diagnosis: The unusual array of clinical evidence was perplexing, and in endeavoring to develop a satisfactory diagnosis I placed a floating kidney of *rare mobility*, and a mesenteric tumor of *rare occurrence* on nearly an even plane, holding rather to the idea of its being a kidney.

Operation: February 26, 1904, with the assistance of Drs. Jno. A. Pfaff and Bernays Kennedy. Anesthetic, ether. Trendelenberg position. Median celiotomy, three inches long, extending from umbilicus to one inch above symphysis pubes. Abdomen explored with hand and a cystic tumor, size of a large orange, in the mesentery of the ileum, delivered outside the wound. No adhesions. Intestines protected with sterile pads. Tumor carefully enucleated from mesentery, avoiding gut, which lay within a quarter of an inch but seemed to have no open communication with tumor. Large vessels opposite side of mesentery also avoided. Moderate venous hemorrhage checked by ligature. Wound in mesentery repaired with continuous No. 2 cutgut suture. During enucleation tumor was slightly ruptured and some of the contents exuded, of about the consistency of soft cheese, or very thick cream, with a faint yellowish tinge. Intestines irrigated with hot normal salt solution and returned to abdominal cavity. The recovery was uneventful. The microscopic examination of the tumor shows that it is a chylous cyst.

Some rare cases have been recorded in which there were no subjective symptoms at all, but, as a rule, there is a history of adhesions. Symptoms of partial obstruction are also common, and in some instances complete obstruction has occurred, constipation, eructations and occasionally vomiting. The cyst may remain stationary for a long time and then increase with considerable rapidity, or it may even retrogress. Rupture may occur into the intestine or into the peritoneal cavity. Emaciation is sometimes very marked, and death may occur from continued pressure upon the lacteals. Acute intestinal obstruction may result either from pressure or torsion. One case in a little girl is recorded in which severe abdominal pain came on during sleep and resulted in sudden death from obstruction.

Diagnosis: There is generally a history of emaciation; abdominal pain of a colicky character, recurring at irregular intervals; constipation; symptoms of obstruction; nausea; eructation and possibly vomiting. An elastic tumor generally in the umbilical region and a zone of tympany surrounding; very great and extraordinary mobility; tumor frequently disappears into the pelvis during palpation. I believe that in exertion and violence (and probably under other conditions as well) it has been for years resting in the pelvic cavity and being suddenly dislodged, discovery follows.

Treatment: There can scarcely be any difference of opinion on the subject of treatment—it should be always operative. Whether complete removal, or partial excision or drainage, must depend upon the density of the adhesions, the character of the blood supply, and the condition of the patient at the time of operation. Enucleation seems the ideal operation, but if the location or size of the tumor is such that enucleation would materially interfere with the blood supply, it would be necessary to choose between drainage and resection of the gut. If the patient showed much depression, as must frequently be the case in such operations, drainage will probably be regarded as the most conservative procedure. Dense adhesions to the liver, stomach or intestine may render removal extremely hazardous.

By far the greatest importance of this subject attaches to *diagnosis*, or rather to a *recognition* of the fact that these growths are occasionally encountered, and, bearing this in mind, it is well to consider the possible complications and how to meet them.

Society Proceedings.

AMERICAN PROCTOLOGIC SOCIETY.

Seventieth Annual Meeting, Pittsburg, May 5 and 6, 1905.

THE PRESIDENT, DR. J. R. PENNINGTON, OF CHICAGO, IN THE CHAIR.

The President's address, after the customary acknowledgements, referred to the adverse criticism which the organization and continued prosperity of this society had provoked in certain quarters. He then proceeded to show that its existence was a logical and necessary step of progress. Special societies arise by a process of natural differentiation. This differentiation, which is unavoidable, by organization of the resulting groups, makes possible a greater definiteness of structure and function of the medical profession. Special organizations have multiplied more rapidly in the past thirty years than during any previous period, and likewise the advancement in the science of medicine has been greater during the same period. But the subject of proctology had been neglected in the past until the charlatan claimed it as his special field, and the profession seems still to be doing its utmost to support the claim. Of the sixty-six institutions belonging to the American College Association, only eight make any provision for teaching proctology. The American College Association has adopted a uniform curriculum consisting of twenty-seven subjects. This extensive course provides for thirty hours to be given each to medical jurisprudence, dietetics, hygiene and public health, sixty hours each to nose and throat and genito-urinary diseases, and one hundred and sixty hours to gynecology. No reference whatever is made to the subject of rectal diseases. "In view of the fact that the greatest breach in the science of medicine to-day is, and always has been, at this very point, and that it is proverbially true that because of this breach the charlatan is more securely intrenched in this than in any other departments, I fail to see the equity in such a curriculum."

"It may be claimed by the Association of Colleges, and those schools that do not include proctology in their curricula, that the chairs of general surgery devote a certain number of hours to these diseases. If so, why are there so many reputable physicians in this country who have never heard a lecture on rectal diseases nor witnessed an ano-rectal examination or operation?"

The author concludes that there is a distinct need for this society, viz., the reclamation of this specialty for ethical medicine, and that the society will exist, prosper and grow in influence in proportion as it meets this need.

"Malignant Disease of the Rectum and its Treatment" was the title of a paper by Dr. G. B. Evans, of Dayton. He prefaced his remarks with a plea for thorough examination of all cases complaining of rectal symptoms. Many cases of uterine cancer have been termed "change of life," and very many cases of rectal cancer "piles," because of neglect of this precaution. It is the consensus of opinion that cancer is at first purely local, and that early recognition and thorough extirpation will cure a large proportion of all cases. Formerly the author was an advocate of colostomy in these cases, but now believes that this procedure should be reserved for those cases only which have advanced so far as to render the radical operation hopeless. The only contra-indication he would recognize as absolute is fixation of the rectum by extension of the growth to adjacent structures. The perineal and combined abdominal and perineal routes were recommended.

Dr. C. F. Martin, of Philadelphia, presented a paper on "The Ambulant Treatment of Internal Hemorrhoids," in which he strongly defended the injection method.

His technique consists of the injection of seven to ten minims of a 50 per cent. solution of phenol (Boboeuf) into each pile tumor at intervals of from two to seven days, depending on the effect produced. As a preliminary to beginning the injection the author recommends divulsion of the sphincters under nitrous oxide anesthesia, much of his success with the method being attributed to this procedure. He concluded that there are not more than 15 per cent. of recurrences and that accidents and complications are by no means so frequent as after the ligature and clamp and cautery operations. In addition the method is practically painless and the patient is not detained from business.

"Cases of Fecal Impaction of the Rectum" were reported with comments by Dr. T. C. Martin, of Cleveland. After giving the symptoms usually complained of by these patients, he emphasized the value of the proctoscope for treatment as well as diagnosis. One of the cases reported was of special interest in that the cause was found to have been a ventral fixation of the uterus in which the rectum, by means of the utero-sacral ligaments, had been anchored so immovable that the patient could no longer "bear down" effectually.

"Urethro-Rectal Fistula" was the title of a paper by Dr. W. M. Beach, of Pittsburg. After citing a number of cases and describing his method of treatment, the author drew the following conclusions:

1. Urethro-rectal fistula is comparatively rare and very easily overlooked. When in doubt use the permanganate test.
2. It generully follows prostatic abscess of gonorrheal origin.
3. It may result from traumatism—faulty use of sound, lithotomy, etc.
4. This is one type of fistula which demands suturing. The suture material should be No. 3 forty-day catgut.
5. The care of the wound should never be left to an assistant; no one can possibly know as much about it as he who made it.
6. A certain number of cases of recent urethral origin will heal spontaneously where the stricture is relieved.

Dr. Lewis H. Adler, of Philadelphia, presented a paper entitled "A Further Contribution to the Study of Pruritus Ani, with Special Reference to its Local Treatment." In the author's experience the male sex had been affected in about 95 per cent. of cases. In nearly all the cases the patients were more or less neurotic, and in the major portion of a decidedly bilious temperament. These cases demand the removal of all exciting causes, and regulation of patient's habits of life should precede and attend local treatment. The latter consists in the daily injection into the cavity of the rectum of from one to two and a half drachms of following mixture:

Ext. hamamelis fl..............	1 fluid ounce.
Ext. ergot fl.	2 fluid drams.
Ext. hydrastis fl..................	2 fluid drams.
Tr. benzoin comp..............	2 fluid drams.

Upon the first visit if the peri-anal skin is dry and tough the entire surface should be painted with a concentrated solution of silver nitrate (960 grains to the ounce). This may require repetition several times at intervals of a few days to restore the skin to normal. After this is accomplished the full strength citrine ointment is to be applied and renewed daily for two or three weeks and thereafter on alternate days or twice a week. This method of treatment may extend over a period of six months or even longer, but in the author's hands it has proved uniformly successful.

"The Operative Treatment of Tuberculous Rectal Fistula in the Tuberculous" was discussed by Dr. J. Coles Brick, of Philadelphia. The frequent association of rectal fistula and phthisis has long been recognized. Some authors claim that 5 per cent. of consumptives develop fistula, and Hartman found that of forty-eight cases of fistula twenty-three were positively tuberculous. In the author's opinion the irritating effects of ether are often responsible for the onset of pulmonery symptoms. For this reason he employs nitrous oxide and oxygen when a general anesthetic is demanded. All raw surfaces are seared with the hot iron. When the case is extensive it is better to perform the operation in stages so as to minimize the period of confinement to bed.

Special stress was laid on the after-management of these cases. The patient should be kept in bed as little time as possible, but no active exercise allowed until weight has returned to normal. Forced feeding and out-door air are recommended, and daily sponging with tepid water, or, if patient's vitality is sufficient, with cold water, is of great value. A weekly gain of weight is the one standard of favorable progress. In conclusion, the author advised that all fistula patients be carefully examined for local and pulmonary tuberculosis, and even though the examination be negative, that every case be treated as though tuberculosis were likely to be developed.

In a paper entitled "Personal Experience in the Employment of Mechanical Vibration in the Treatment of Rectal Diseases," Dr. W. L. Dickinson, of Saginaw, concluded that this is a valuable method of treatment and deserving of more general use by the proctologist. A number of instances were recounted in which it had been successfully used for the relief of fissure and to accomplish dilatation of the sphincters. But the author thought that its greatest field of usefulness was in the treatment of chronic constipation, and gave the technique of its application in such cases.

"The Office Treatment of Rectal Diseases and its Limitations," was the title of a paper by Dr. James P. Tuttle, of New York.

The trend of practice in rectal diseases at the present day is three-fold: (1) Toward a more general resort to operative measues; (2) toward a wider application of local anesthesia; and (3) toward a great increase in office treatment. These tendencies are due to the following facts:

First, the public as well as the profession has learned that non-operative measures cannot be relied upon for permanent cures.

Second, dread of general anesthesia has greatly diminished, due chiefly to improved methods in the use of ethyl chloride and nitrous oxide, alone or as adjuvants to ether.

Third, dissemination of the knowledge that most of the minor rectal surgery can be done under cocaine or other local anesthetic with as little pain and almost as little detention from business as is occasioned by the non-operative measures which give only temporary and uncertain relief.

Fourth, local anesthesia is being more generally adopted because it is safer, can be more quickly applied, simplifies the work, and at the same time, if properly used, permits of as thorough work as general anesthesia. Cocaine, eucaine, stovaine and sterile water are all reliable local anesthetic agents. One per cent. solution of cocaine, eucaine and stovaine are as strong as it is ever necessary to use, and usually ½ per cent. is sufficient. Stretching of the sphincter has heretofore been the most difficult thing to accomplish under local anesthesia, but the author referred to a method he had devised by which this can be done, thus making it possible to operate painlessly on hemorrhoids, fissures, small fistulas, ulcerations, tumors low down and even low stricture. But while these things are possible the author considers certain conditions requisite: (1) Asepsis; (2) careful selection of cases; (3) complicated and plastic operations not to be undertaken; (4) when general anesthesia is necessary it is better to have patient at home or in the hospital, even though it may be possible to do the work in the office.

"A Contribution to the Pathology of External Piles" was the title of a paper presented by Dr. Louis J. Krouse of Cincinnati (see p. 703).

A paper entitled "A Summary of Twenty-five Radical Operations upon the Rectum under Local (sterile-water) Anesthesia" was read by Dr. A. B. Cooke, of Nashville. The twenty-five operations consisted of: Internal hemorrhoids, fifteen; prolapsus ani, two; anal fissure, two; external hemorrhoids, six.

From this series of cases the author drew the following conclusions:

First, the method is simple, safe and effective.

Second, pain at the time of operation is exceptional.

Third, post-operative pain is far less than after the old methods.

Fourth, time of detention from business is reduced more than half.

Fifth, it offers a reliable means of extending the benefits of surgery to a large class of cases which would otherwise be unsuitable for operation.

Sixth, it robs these operations of their terrors.

Summing up his personal experience with the method, the author stated that it had been satisfactory beyond his fondest hopes, and if the promise of the method is realized in the future that he would have need for general anesthesia in rectal surgery only in the exceptional case.

Papers by Drs. William Bodenhamer,

Leon Straus and A. Tierlinck, in the absence of the authors, were read by title.

The following officers were elected for the ensuing year: President, Dr. Lewis A. Adler, Jr., of Philadelphia; Vice-President, Dr. George B. Evans, of Dayton; Secretary-Treasurer, Dr. A. B. Cooke, of Nashville; Executive Council: Dr. J. R. Pennington, Chicago. Chairman; Dr. T. C. Martin, Cleveland; Dr. William M. Beach, Pittsburg.

Time and place of meeting for 1906 to be determined by the Council.

Editorial.

MARK A. BROWN, M.D., EDITOR.

CINCINNATI, SATURDAY, JUNE 24, 1905.

THE ACCURACY OF MODERN CLINICAL METHODS IN THE DIAGNOSIS OF DISORDERS OF THE STOMACH.

Among late laboratory methods of research probably none have made more important advances than those associated with the diagnosis of diseases of the stomach. Of these methods the various processes on which a reasonable diagnosis of gastrecstasis or insufficient drainage of the stomach can be based must be regarded as among the most valuable. The value is two-fold: First, when chronic, it indicates that there is present a mechanical abnormality of some kind; and, second, in a large proportion of cases the obstruction is due either to ulcer or cancer, and its presence "may be the prominent factor, often in early cases the only factor of the clinical investigation, which leads us to a diagnosis of one of these conditions." If the importance of this symptom or clinical sign, gastrecstasis, is of this great importance, a determination of its presence or absence should be an imperative part of the investigation of every case of stomach disorder that comes to the lot of the physician.

Let us examine the work of one of the recent and most thorough workers in this field and find to what conclusions his work has led him. This work of Hewes[1], of tigations of all kinds, including the normal. His method for determining the presence or absence of gastrecstasis was that which was commonly employed, viz., the examination of the contents of the fasting stomach. The Leube test meal was given and the stomach contents removed after twelve hours, a somewhat the Massachusetts General Hospital, has consisted of a study of 180 stomach inveslonger time than that generally allowed. The advantage of the twelve-hour interval is that it allows for normal variation and idiosyncrasy, and if stasis is present indicates that a disturbance of considerable degree exists. Of the 180 cases examined as to the quantity and appearance of contents, presence of macroscopic food residue, presence of lower forms of life, presence or absence of free hydrochloric acid, presence of lactic acid, presence and character of fermentation—in other words, the usual data leading to a diagnosis of gastrecstasis or the reverse, including twenty normal individuals—there were 26 cases of gastrecstasis and 134 of various troubles not associated with stasis as per Hewes' standard for stasis determination.

In order to show any value whatever in the experimental work it must be proven to compare favorably with the operative or post-mortem findings; only by such a comparison could the real value of Hewes' method of clinical procedure be determined. The summary forming the special record is as follows:

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[1] Boston Med. and Surg. Journal, June 15,1905.

> "Among 180 cases included in my investigation, 39 came to surgical operation or post-mortem examination.
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> "In these 39 cases, the test cases of our experiment, 21 had a clinical diagnosis of stasis and 18 a diagnosis of no-stasis.
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> "In the 21 cases of clinical stasis an anatomical finding of obstruction of the pylorus, that is of an actual anatomical cause for insufficient drainage, was found in every case.
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> "The actual pathological findings in these 21 stasis or obstruction cases were:
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> "Cancer at the pylorus, 11 cases; ulcer at the pylorus, 9 cases; adhesions about the pylorus, 1 case.
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> "In the 18 clinical no-stasis casis, the pylorus was found to be intact or patent in every case. The actual pathological findings present in these cases were:
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> "Cancer of the stomach, 10 cases; ulcer of the stomach, 3 cases; chronic gastritis, 2 cases; no demonstrable lesion of the stomach, 3 cases."

That is to say, in the 39 cases of his investigation in which it was possible to obtain an actual test of the accuracy of the clinical findings, the existence of a twelve-hour stasis was shown to be an associate and active sign of a pathological condition of the stomach of a more or less serious nature. On the other hand, no lesions of the pylorus were found in any of the test cases which did not show stasis. The testimony of Hewes' work, then, is unanimous in favor of the accuracy and value of the clinical method of diagnosis when the various steps leading to the latter are carefully and methodically done, and supply three significant indications in connection with the study of stomach conditions, as follows: Obstruction at the pylorus in any given case can always be diagnosticated by a rational and proper method of investigation; twelve-hour stasis occurring as a constant clinical feature indicates a serious pathological condition; and, lastly, stasis is not as a general thing an associate of even such serious stomachic affections as cancer or ulcer unless the pathological condition is located in the region of the pyloric valve.

THE PORTLAND SESSION.

Three weeks from to-day and the fifty-sixth annual meeting of the American Medical Association will have gone into history. As all know, the session will be held in Portland, Oregon, July 11 to 14, Portland having been selected not only on account of the Lewis and Clarke Exposition, but because it was thought that the extreme western part of the country deserved the honor of the Association meeting in that the Western members had for years patiently turned their heads and wended their ways toward the rising sun. A glance at the programme shows how loyally the Western men have come to the front, though there will be, as usual, a large representation from the East. In a meeting at Portland it is rather hard to classify Cincinnati, whether as an Eastern or Western city. However, the representation is quite large, and includes two chairmen of sections, Drs. C. L. Bonifield, Chairman of the Section on Obstetrics and Diseases of Women, and C. R. Holmes, Chairman of the Section on Ophthalmology, as well one secretary, Dr. D. I. Wolfstein, Secretary of the Section on Nervous and Mental Diseases. Dr. Wolfstein will read a paper on "The Abnormal Child," while the subject of Dr. Holmes' address will be "Studies of School and Hospital Hygiene of Interest to the Ophthalmic Surgeon." In addition, Dr. Sigmar Stark will read a paper on "The Anatomy of the Pelvic Floor, with Relation to its Lacerations and Repair;" Dr. M. L. Heidingsfeld, "Ringworm and Some of its Allied Affections." Others who will make the trip for its social and educational features are Dr. and Mrs. H. W. Bettmann, Dr. Joseph Lowe, Dr. J. Ambrose Johnston, Dr. and

Mrs. George E. Malsbary, and Dr. C. A. L. Reed.

EDITORIAL NOTES.

ADDITIONAL yellow fever cases have been reported to the War Department from the canal zone during the past week.

DR. L. F. BARKER, Professor of Medicine at Johns Hopkins, received the honorary degree of M. D. at the convocation exercises at Toronto, last May.

DR. FRANK PARSONS NORBURY, of Jacksonville, Ill., First Vice-President of the Mississippi Valley Medical Association, has been elected Professor of Nervous and Mental Diseases in the Keokuk Medical College.

IN the letter from Dr. Goldspohn on "Bi-Inguinal Celiotomy," published in last week's issue, a mistake was made as to the author's residence. It should have been 34 Washington Street, Chicago, not Cleveland.

NUMEROUS changes are reported for the faculty of the Medical College of Ohio for the ensuing session: Dr. P. S. Conner, Professor of Clinical Surgery; T. A. Reamy, Emeritus Professor of Obstetrics and Gynecology; E. Gustav Zinke, Professor of Obstetrics and Gynecology; Joseph Ransohoff, Professor of Surgery; Dr. H. J. Whitacre, Professor of Principles of Surgery; Dr. S. P. Kramer, Professor of Surgical Pathology. Drs. C. A. L. Reed and C. L. Bonifield have been elected members of the executive faculty.

REPORT of the Bureau of Infectious and Contagious Diseases for the week ending June 16, 1905:

Disease.	Cases.	Deaths.
Measles	5	0
Diphtheria	2	0
Scarlet Fever	10	2
Typhoid Fever	12	1
Phthisis Pulmonalis	13	10
Pertussis	4	3
Smallpox	4	0
Cerebro-spinal Meningitis	1	0
Erysipelas	2	0

CHANGES AT RUSH.—Dr. Nicholas Senn remains at the head of the Surgical Department at Rush Medical College, though Dr. John B. Murphy has also secured a professorship of surgery, while Dr. Arthur D. Bevan will attend to the teaching of clinical surgery.

ACADEMY OF MEDICINE.—The meeting Monday evening, June 26, will be devoted to case reports, exhibition of specimens, etc.

FOR SALE—Unopposed country practice in southern Ohio, making $2,000 cash and very few bad accounts. Rich farming community, excellent turnpikes. All incumbents have made money. Real estate worth the price. Twelve hundred to $2,500 required. Address "PHILLIP," LANCET-CLINIC.

Otology.

C. R. HOLMES, M.D.

Study on the Secreting Mechanism of the Nose.

J. L. Goodale, Boston (*Annals of Otology, Rhinology and Laryngology*, March, 1905), after reviewing the literature on the secreting mechanism of the nose, reports the results of his own studies on some seventy specimens of nasal tissue which showed clinically slight or moderate deviations from the normal. The questions proposed for investigation were: (1) What is the nature of the glands in the nose? (2) Is the aqueous vapor which the nose imparts to the inspired air derived from the glands or from the epithelial surface between the orifices of the gland ducts? (3) What histologic alterations in the secreting mechanism are found in cases characterized clinically by change in secretion. The cases studied were classified on the basis of their clinical appearances, as follows: (1) Normal tissues removed in operations upon the septum; (2) chronic rhinitis showing intermittent congestion and usually an excess of mucous discharge; (3) chronic rhinitis with hypertrophy, papillary or edematous; (4) chronic rhinitis with tendency to atrophy; (5) vaso-motor rhinitis. After discussing the microscopic pictures in detail Goodale summarized the histologic alterations, as follows.

Simple chronic rhinitis is characterized chiefly by an increased development of the venous sinuses and of the glands. Hypertrophic rhinitis exhibits an increased proliferation of the epithelial or of the connective tissues or of the glands, although these latter, as a rule, play a subordinate part, while no characteristic alterations in the canaliculi are observed. In atrophic conditions the most important alteration consists in the epithelial metaplasia by which the pervious columnar ciliated epithelium and basement membrane is transformed into a dense, compact squamous epithelium, lying directly upon a compact rete mucosa. The glands are diminished in number and size, but in a moderate degree the mucous acini being distinctly alive.

In vaso-motor rhinitis the characteristic alterations consist in a marked increase in the number and size of the canaliculi of the basement membrane, and in the perviousness of the overlying epithelium. With this is associated a marked round-celled infiltration. The glands show a moderate increase in number and size, but there is apparently no increase in the amount of mucous degeneration, and it was not possible to demonstrate an increased activity in the serous glands. Goodale, therefore, concludes that the fluid present on the surface of the nasal mucous membrane is composed of the secretion of the mucous and serous glands, together with a definite proportion of fluid transuded through intercellular spaces of the mucous membrane. With this is mingled a varying amount of mucus, derived from degeneration of the epithelial cells, together with migratory leucocytes and cellular detritus. Finally, under certain conditions of external cold there is added by condensation a varying amount of water exhaled from the lower respiratory passages.

Under pathologic conditions the glands and canaliculi become altered. In chronic rhinitis there is found a heightened proliferation and mucous degeneration of the cells of the muciferous glands. In chronic hypertrophic rhinitis there is no proportionate increase in the activity of the glands or in the number of the canaliculi. In atrophic rhinitis the glands are somewhat diminished in number and size, but the most striking alteration is the entire absence of canaliculi in the basement membrane. The transudation of fluid is thus suspended, and we encounter, therefore, a fluid consisting of mucous and albuminous secretions of the glands, together with a variety of cells and bacteria and their product. In vaso-motor rhinitis we find an increase in the number and size of the canaliculi in proportion to the severity of the symptoms. The serous glands show possibly a heightened secretion, but the mucous glands show no evident increase in activity.

Tonsil Separator and Tonsil Forceps to Facilitate Tonsillectomy.

E. Fletcher Ingals, Chicago (*Journal American Medical Association*, February 4, 1905), described to the Section on Laryngology and Otology of the American Medical Association, at the fifty-first annual session, a tonsil separator and tonsil forceps to facilitate the operation of tonsillectomy. The tonsil separator has two blades, which, when closed and locked, form a blunt hook. When the catch is loosened the blades may be opened out so that the two ends forming the blunt hook thoroughly separate the anterior pillar of the fauces from the tonsil by a single movement. The tonsil forceps is about eight inches in length, with a catch on the handles so that it can be locked after the tonsil has been seized. The blades of this forceps turn at an angle of forty five degrees to the long axis. They are nearly an inch in breadth at their broadest part and are rounded down toward the end so that when the loop of wire had been slipped over their broadest part it must necessarily slide toward their end to the base of the gland. The end of the blade consists of two blunt points, each about an eighth of an inch from each other by a crescentic depression which leaves an elliptical opening about three eighths of an inch long by one-fourth inch in width when the points of the two blades are brought in contact. When the handles are locked the points of the blades press firmly against each other, and the handles have enough spring to allow for what we might call the root of the tonsil between the ends of the blades. When the tonsil has been seized the handles of the forceps are locked, the tip of the uvula is lifted out of the way with a pincette, which may be held by an assistant, and the loop of the wire of a snare is slipped over the handles of the forceps and carried along them into the mouth and over the end of the forceps. If the tonsil is of fair size it may be lifted up so as to make certain that the wire slips under it. The wire loop is now drawn tightly about the base of the tonsil. If it has not been necessary to separate the anterior pillar the bleeding will not have exceeded a dram.

Sarcoma of the Maxillary Sinus.

Z. L. Leonard, New York (*Annals of Otology, Rhinology and Laryngology*, March, 1905), reports a case of sarcoma of the maxillary sinus. The patient, a merchant aged fifty years, had a small non-malignant growth removed from the vicinity of the left mamma in March, 1902. On the site of this surgery a second growth appeared, which was removed in January, 1903. The growth and the axillary glands were ablated. Examination revealed that this growth was sarcomatous. Almost immediately treatment by the X-ray and by injections of the Coley toxin began and was continued for over a year. Leonard first saw the case September 15, 1903. He had been annoyed by epistaxis, occurring usually at night and only from the right nostril. There was no pain. The right inferior turbinate was considerably enlarged but not sensitive. The posterior rhinoscopic image was normal. The inferior turbinate continued to grow, but had a firm healthy appearance. and did not bleed. About the first of November, 1903, some pain appeared on the right side of the face. In December there was marked tenderness of the cheek but no bulging. The turbinate now attached itself to the septum. Transillumination gave an umbra extending over the whole maxillary sinus. Operation December 17. The nasal and buccal walls of the antrum and the roof were found extensively eroded. The eyeball could be felt by the finger passed through the antrum. The antrum was filled with a soft friable mass—a round-celled sarcoma. Subsequently there was painless loss of vision of the right eye. The floor of the sinus and the alveolar processes were destroyed, allowing the teeth to drop out. There was no extension of the growth below the superior maxilla, and, notwithstanding the fact that the movement of the growth was apparent in the direction of the important region at the base of the brain, there were no cerebral symptoms at any time. The function of deglutition was never interfered with materially. There was no excruciating pain and no very copious hemorrhage. Patient died April 14, 1904, and no autopsy was allowed.

Fracture of the Base of the Skull.

Geo. L. Walton, Boston (*Annals of Surgery*, October, 1904), has made a study of fifty cases of fractures of the base of the skull. Among facts interesting to the otologist he points out that in the majority of the cases the basal fracture resulted from impact received in the horizontal plane of the skull, whether upon the frontal, occipital or temporal regions. The line of fracture tended to enter the fossa nearest the point of impact and to follow lines of least resistance. The petro-occipital and masto-occipital sutures furnished common lines of least resistance. Fractures extending across the base tended to run parallel to the petrous portion of the temporal bone and through the sella turcica. Certain blows on the occiput tended to cause a line of fracture extending to the jugular foramen or across the petrous bone. The portion of the petrous bone containing the auditory apparatus showed itself peculiarly liable to fracture, more often transversely than longitudinally. Profuse and persistent bleeding from the ear does not suggest middle meningeal hemorrhage. No middle meningeal hemorrhage was found in the cases of profuse and persistent bleeding, and, conversely, hemorrhage from this artery occurred eight times without and once with only slight bleeding from the ear.

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